



THE CULTIVATOR.

THIRD]

TO IMPROVE THE SOIL AND THE MIND.

[SERIES.

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J. J. THOMAS, ASSOCIATE EDITOR, UNION SPRINGS, N. Y.

TERMS—FIFTY CENTS PER YEAR.—Ten copies of the CULTIVATOR and
Ten of the ANNUAL REGISTER OF RURAL AFFAIRS, with one of each
free to the Agent, Five Dollars.

THE CULTIVATOR has been published twenty-nine years. A NEW
SERIES was commenced in 1853, and the ten volumes for 1853, 4, 5, 6,
7, 8, 9, 10, 11, and 12, can be furnished, bound and post paid, at \$1.00
each—the set of 10 vols. sent per Express for \$7.50.

"THE COUNTRY GENTLEMAN," a weekly Agricultural Journal
of 16 quarto pages, making two vols. yearly of 416 pages, at \$2.00 per
year, is issued by the same publishers.

but how can they determine, unless by accurate accounts?
Many an unfortunate cultivator has been overwhelmed by
the tide of insolvency, by not knowing in what direction
to travel to reach solid land.

It is important for every farmer to know precisely what
it costs him to raise a bushel of wheat, or of oats, corn,
or potatoes; he can only ascertain this by keeping a dis-
tinct account through different years, with each field—
the cost of manure applied, the interest of the land, and
the aggregate amount of all the labor expended. He
should also know, not by guessing, but by accurate meas-
uring, what particular kind of management for each crop
affords the best return. He should ascertain more than
this—or whether the feeding of grain to animals affords
him a better return than selling the same in market—in
which calculation the manure of the animals should not
be forgotten.

In a late number of the COUNTRY GENTLEMAN, a cor-
respondent stated that the knowledge he had recently gained
by registered experiments in the cultivation of the potato
crop, would have enabled him a year ago to have realized
a profit of five hundred dollars. A young farmer infor-
med us that the information he had derived, in relation
to the most profitable way of feeding cattle, from the
weekly use of a platform scale, had more than paid for it
in a single year. A general system of such experiments
would amount to hundreds of dollars every year, and a
handsome fortune in a farmer's life-time.

The principal reason why farmers omit such experi-
ments, or neglect accurate accounts, is that they "haven't
time." They come in at night from a long day's labor,
and are too weary to give themselves any further trouble.
It would be much more economical for them to labor per-
sonally a little less at the oars, and give a little more at-
tention to the steering of the vessel. It would be better
(although not necessary,) to hire a few days at five dollars
a day. What would be thought of the banker, who
should throw aside his books and say, "I haven't time to
keep accounts, I am so busy with loaning money and
making out bills of exchange." Or of the railway manager,
who should say, "I am so much occupied with attending
to the affairs of the road that I intend merely to estimate
the profits, and guess at the dividends." The mariner
might as well throw aside his compass and log-book, as
the farmer his accounts. Is farming so much more
profitable than other business, or at least so much safer,
that he is tempted to dispense with this very important
requisite, which, although not so essential as in the more
hazardous business of commerce, would contribute im-
mensely to his success?

Directions how to keep accounts are scarcely necessary.

The Cultivator & Country Gentleman.

FARM ACCOUNTS.

During a recent visit to several intelligent and success-
ful farmers, for information on some points of practical
husbandry, we were struck with the almost entire absence
of accurate accounts. Every thing was done by guessing
or estimate. The amount of a crop per acre, the quantity
of food given to fattening animals, or the result of any
other experiments, had not been determined with weigh-
ing and measuring. Long experience may indeed enable
some men to judge quite correctly in this way, although
they cannot give satisfactory reasons for their opinions to
others. But more commonly, this way of judging is very
loose and inaccurate; and is accompanied with about such
conclusions as the Hibernian reached, who said that he had
observed that there had been a good many more women
than men married the past year. Correct statistics or an
accurate register, would probably have shown that he was
mistaken. A similar register kept by farmers, would
doubtless compel them to revise many of their opinions.

Every farmer, in order to be successful, should know
just where he is making the most money, or realizing the
heaviest profits. He then knows in what direction to ex-
tend his operations. Some of our readers may have
heard an anecdote of the elder Bonaparte when in Egypt,
which serves to illustrate this point. Accompanied by a
number of men on horseback, he was riding on a dark
night, on the broad sandy beach of the sea; suddenly by
the rising of the tide, the water swept over the beach,
and began to cover the horses' legs. The darkness of the
night prevented them from seeing the direction of the
land, and all was fright and confusion. Bonaparte im-
mediately ordered them to form a circle with the horses'
heads outwards. "Now," said he, "all ride forward—if
you find the water growing shallower, ride on—if grow-
ing deeper, turn about and follow the rest." Farmers
should pursue a precisely similar course; they should go
in the direction of profits, and turn away from losses;

All that the farmer need observe is to devote a page to each field or crop, or separate animal or flock, and place the expenditures in one column, and the profits in another. These accounts should be neatly and distinctly kept, and not in the bungling, mixed-up manner sometimes witnessed. In order that nothing may be forgotten, he should always carry a memorandum book in his pocket, and everything set down at the moment, to be copied off each evening. Many suggestions will occur to him during the day by way of improvement in cultivation and management—these suggestions should be immediately transferred to his memorandum book. Such a course as this pursued for a few years, would give him a vast amount of practical information which he could not obtain in any other way, and which would be worth to him many thousand dollars of solid cash.

Assessed Value of Lands in New-York.

Some light worthy of note is thrown upon the Agricultural character of the State of New-York, in the interesting Report submitted to the Senate under date of 26th January, by Hon. T. C. PETERS, State Assessor. This report is "the result of personal examinations of each and all the counties by the State Assessor, during the four years of the existence of the office. It is the first time that he has been able to make the report embrace all the real estate of the State."

In personally investigating the assessed valuations of farming lands in different counties, it was found that no fixed standard was acted upon; that scarcely any two persons entertained similar opinions of value; that grades of land precisely similar, but separated by county lines, were very differently assessed, and, as a universal rule, "that the least productive lands bore a much higher valuation in proportion to their intrinsic value, than those of better quality." The variation existing in the agricultural value of different parts of the same county, presented a great obstacle in the way of adopting the same amount per acre as the assessed value of the whole county; but some system of generalization being rendered imperatively necessary, it was finally concluded to group the farming lands of the State in three natural divisions, and to rank each county with that division to which the greatest percentage of its lands properly belonged. But this division must not only be based upon the assumption that the "value of land consists in its power to produce the greatest value of raw material for human food or clothing, and at the least expense," but is also affected by the location and value of the land for other purposes; and the latter consideration introduces sub-classes in the first two divisions—several counties being thereby brought from the second or third class, to which they would otherwise belong, respectively into the first or second. The counties as thus classified, together with the equalized valuation placed upon their farming lands per acre, we give below:

I. Lands upon which Wheat is made the staple crop, to which are assigned the following counties:

Cayuga,	\$45.00	Niagara,	\$45.00	Seneca,	\$45.00
Genesee,	40.00	Onondaga,	45.00	Wayne,	45.00
Livingston,	45.00	Ontario,	45.00	Yates,	40.00
Monroe,	45.00	Orleans,	45.00		

Under this head are also included those counties which, from their commercial or manufacturing advantages, or from their peculiar location, give such an increased value to their lands as to become a subdivision in the first class. These are:

Albany,	\$50.00	Kings,	\$220.00	Rensselaer,	\$40.00
Columbia,	45.00	Oneida,	28.00	Richmond,	110.00
Dutchess,	55.00	Orange,	45.00	Suffolk,	17.00
Erie,	28.00	Queens,	80.00	Westchester,	100.00

With the exception of Kings and Queens, the soil for natural fertility in any of the last named counties does not compare favorably with those already placed in the first class. Yet their peculiar location, their easy access to the great consuming market of the continent, their commercial or manufacturing advantages, as evidenced by their large towns and denser population, enhance the value of their lands much beyond those of a more fertile soil, but less favorable situation.

The lands upon Long Island, included in the counties of Kings and Queens, are among the most valuable in the State. That they are not the most productive and populous, is not so much from any defects in the soil, the climate, or location, as by reason of the proprietors or occupants.

II. Lands best adapted for the Spring grains, and to Grazing and Dairy purposes, to which belong the counties of—

Chautauqua,	\$20.00	Madison,	30.00	Schuyler,	\$38.00
Chenango,	18.00	Montgomery,	40.00	St. Lawrence,	9.00
Cortland,	20.00	Otsego,	19.00	Tompkins,	30.00
Herkimer,	15.00	Schenectady,	50.00	Washington,	30.00
Jefferson,	20.00	Schoharie,	20.00	Wyoming,	30.00

Although these counties are widely separated, yet in their general characteristics of soil and topography, and consequent agricultural products and industrial pursuits, there is a marked similarity. The large area of wild and unoccupied land in Herkimer, Jefferson and St. Lawrence, has reduced their acreable valuation much below what the better and more settled and improved portions would otherwise warrant.

A sub-class is also attached to this division, consisting of the following counties, viz :

Greene,	\$18.00	Putnam,	\$40.00	Saratoga,	\$20.00
Oswego,	18.00	Rockland,	45.00	Ulster,	20.00

The county of Oswego is included in this class only because of its city and the great commercial and manufacturing facilities which she possesses, over many of the first class counties. The position of the other counties, and not their soil, places them in this division, as but for location they would be in the 3d class.

III. Those counties most sparsely populated, and mainly dependent upon Grazing, viz :

Allegany,	\$15.00	Delaware,	\$9.00	Lewis,	\$8.00
Broome,	18.00	Essex,	3.00	Steuben,	14.00
Cattaraugus,	11.00	Franklin,	4.00	Sullivan,	8.00
Chemung,	22.00	Fulton,	14.00	Tioga,	20.00
Clinton,	9.00	Hamilton,	1.00	Warren,	4.00

These counties are also widely separated, yet in their general characteristics, being more or less mountainous, or broken into rough and hilly surface, and containing large areas of heavy timbered lands, but partially accessible to the lumberman or hardy pioneer, they bear a marked similarity. Still those counties which form our southern range, are the most valuable, and will ultimately sustain the densest population.

In arriving at the amounts above given as a just and proper valuation of the farming land in each county, *in proportion to the others*, a personal examination was not only made, but various other sources of information were resorted to. Population was found to be in some degree an index to the capacity of the soil and the accumulated wealth of the people. The census reports of "agricultural products" and "cash value of farms" per acre, were compared with other data, also the returns of county assessors; and, beside all this, the several towns in each county were classified and appraised by themselves, "and thus the aggregate value of the farm lands in the towns ascertained, and by the towns a valuation for the whole county established."

The Report before us refers also to the fact that still more glaring irregularities in assessments, exist with regard to personal property than in the valuation of real estate. It is well known that the assessed value of all property is far below its actual amount, and yet we were hardly prepared for such an illustration of this, as Mr. PETERS affords, in his comparison of the assessed valuation of the State, with the amount of Insurance risks held by its citizens. The statistics of the Insurance Department show :

Risks held by Insurance Companies, Dec. 1, 1860, amounting to,	\$1,601,033,698
Deduct Life Insurances, about,	130,000,000

Aggregate risks on property,

The aggregate valuation of the whole Real and Personal Property in the State, for 1861, was only

1,441,767,430

Or considerably less than the amount actually insured.

It is also shown that in one county the returns of personal property are less than the amount of banking capital employed in the county; and, in others, a comparison of

the banking capital with the assessments of personal estate, shows that the latter must be very inadequately reached by the tax gatherer.

There is a certain amount of taxation annually to be borne; if all parts of the State are assessed *on the same basis*, it will make no practical difference whether each citizen or each county is put down at one-third, one-half, or three-quarters as much as he or it is really worth; but when one person or locality is assessed at one rate, and another at a far higher or lower proportion, there is no equal distribution of the public burdens, and the wonder is that such a condition of affairs is tolerated with so few calls for reform. We have heretofore said that the annual collection of our Agricultural Statistics would be an important step towards reform, as regards the assessment of real estate—the valuation of personal property should be reached in other ways.

CROWDED SHRUBBERIES.

Much of the ornamental ground that is planted in this country, especially by novices, ultimately becomes a crowded mass of tall trees and small shrubs. The owner tries to bring into a small space what ought to be spread over a very large one. He may have seen a ten acre landscape garden, and he is resolved, by a sort of condensing process, to squeeze all its beauties into ten yards square. James Russell Lowell describes, in his account of Gordon Knott, a half acre occupied with a complex Tudor mansion, meadow and upland, water view and woodland, and everything else belonging to a wide domain. The water view, by necessity, had to be a pump and trough; the woodland,

"Three pines stuck up askew.
Two dead ones, and one live one."

In all such cases of attempting much in little, it usually happens that little labor as well as little land is used. Everything is apt to be done superficially. The ground is badly prepared and dug shallow. The trees are badly planted and half cultivated; they grow slowly for a number of years; and to compensate for want of shade, more are stuck in among them. After a number of years they get under way and ultimately produce an inextricable mass of brush. There is neither order nor beauty about them. The whole operation is very much like an attempt to include the different rooms of a house; the drawing room, dining room, breakfast parlor, library, nursery, hall, boudoir, &c., all within a ten foot cottage. Each would be about large enough to hold one chair and a small stove.

Instead of all this mixed up mass of blunders, let whatever is accomplished, be done clearly, distinctly and in a perfect and finished manner. A single flower bed, filled with beautiful and luxuriant plants, and kept with a neat finish, will appear far better than a whole acre flower garden, that is all confusion, with weedy walks, weedy beds, and sickly ornamental plants. Let the ground be well dug or otherwise prepared, at least eighteen inches deep; it should be uniformly mixed with manure, to impart a fair fertility. If any portion of it is to be lawn, the grass will not be subjected to the drought which burns in a thin and shallow soil, but will remain green and fresh throughout the summer. The trees or shrubs will grow rapidly, and their natural beauty be finely developed.

Many planters are desirous to have large trees at once, and with this view, procure the oldest or tallest from nur-

series or elsewhere. These are checked if not killed by removal, and when they get under way again it is a long time before they make handsome dense foliage, if they ever do. When Sir Henry Stuart planted his world-renowned park of large trees, and before time had shown the failure of his experiment, it was shrewdly remarked by Loudon, that he would undertake to produce in ten years, a much better result, by planting small thrifty trees in deeply trenched and well enriched land, and by giving them the best cultivation. The sequel proved he was more than right. We wish to urge particularly on the present occasion, on every planter, the importance of understanding fully beforehand, the effect of every tree which he plants. He should know its ultimate size and appearance, and not as is too often the case, judge merely by its looks in the nursery row. The mistake that is commonly made is in planting out large trees as if they were shrubs. If the grounds are small, shrubs or small trees alone should be planted, and the proper and full space given for each. If after the planting is completed, the grounds appear too meagre, others may be placed temporarily between, but a distinct record should be kept, in order that those which are temporary may be removed at the right time. A Norway Spruce is a beautiful tree when only three or four feet high, and we have seen them set out in small gardens, as if they were never expected to grow much larger, when in truth they may be fifty feet broad in twenty years, if the soil is good for them.

MUCK AND ASHES.

MESSRS. EDITORS—I am anxious the coming spring to compost a quantity of muck with ashes, and wish to know how to do it with success; what proportions and how long before using they should be prepared; how to cause the mass to generate sufficient heat and no more, and in fine; whether I may look for recompense for my labor, or whether the mass will come out simply muck and ashes again. My great and constant difficulty is that I am unable with the best knowledge I possess, to make enough plant food for yearly use, and wish to know how it can be best increased.

W. J. P.

The proportion of ashes needed to mix with muck, cannot be accurately prescribed, as the quality of the muck, its sourness, woody fibre, &c., varies much in different localities. It may be from one-tenth to one-third. Our own experience has not verified the high value of this mixture which some claim for it. Ashes is usually an excellent manure in moderate quantities, and muck is also very useful; but we have never found the mixture at all equal in efficiency to stable manure. In some cases or conditions of soil, it would doubtless be more useful. Ashes and muck, mixed, will not produce much fermentation. We much prefer using muck with manure, either in composts, or to spread in cattle yards.

COSTIVENESS IN HORSES.

In answer to an inquiry in a January number, in regard to costiveness in horses, my cure is to give an ounce of fine cut tobacco. Wrap it up in paper—hold the horse's tongue out with one hand, and with the other take the paper of tobacco between the thumb and finger and push it down. In most cases this will be sufficient, and will have the desired effect in six or seven hours, but if it should not, give another dose of the same amount, and take my word for it you will be pleased with the result, for I know it to be good by experience, having often given it to my own, and have seen it tried hundreds of times in England. JOHN SCOTT, Newfane, N. Y.

BUYING A FARM.

A farm should be the home, and its management the business of the owner. It is true one may be hired or worked on shares, but very seldom do we see land cultivated under such circumstances, managed in a way worthy of the name of farming. Ownership seems necessary to a proper appreciation of the characteristics and powers of the soil. We again see a movement in the real estate market—sales and purchases of farms, and it suggests some thoughts on what one should look to and seek for in buying a farm.

Considered as the homestead and abiding place of the owner, a farm should be pleasantly and conveniently situated. The health, comfort, and happiness of those who occupy it, are of the first importance; so every social and physical influence which bear upon them should have due weight in determining a choice. A healthy locality should be considered far above a fertile soil. The thousand things which promote home comfort will compensate for many pecuniary disadvantages. Happiness, the enjoyment of social privileges and blessings, go far to make a sterile soil of greater value than the most productive, where a moral miasma prevails. A situation of easy access to the great routes of business and mails, with educational and religious privileges of a high class, would be considered of the highest importance by the intelligent and cultivated man, who would enjoy the best privileges of American life and society.

Another thought. The new location should be suited to the tastes and character of the purchaser. Men of mature age are usually of fixed habits and dispositions, such as do not change with a removal to another home. They should find then in the new, the best pleasures and conveniences of the old, and as many improvements as may be. But if circumstances require any considerable change, it should be remembered that to make it will require some exertion and energy—they must expect this, or meet disappointment. Their children may find a happier and better life in the new locality—the sacrifice of old habits can be made for their sakes.

As a business the requisites of successful farming depend to a considerable extent on the choice of the farm. It should be one which the owner has the means and the understanding to manage. One cannot put all his capital in land, and expect to farm profitably on credit and make-shifts—often so cramped that all improvements are out of his reach. As well might the merchant put his whole capital into a fine store, reserving nothing to purchase the goods wherewith to fill the shelves and attract customers. It requires as much capital to stock and carry on a farm generally, as to pay for the land itself. The farmer needs capital to keep his credit good—to take advantage of the markets in buying and selling, and in making seasonable improvements. A farmer loses money who is compelled by want of money to sell his crop at the lowest stage of the market, or who cannot command extra labor in any emergency of the season, or who is obliged to wait for years to get a few hundred dollars to drain a swamp that would pay him the interest on a thousand dollars as soon as the work was done.

The farm should be suited to the products which it is desired to devote it to. The taste and experience of the owner will incite him to undertake certain branches of farming, but some soils are best calculated for grain growing, others will produce extra fruit, others have grass

and water for the dairy, or stock generally, while occasional locations are to be found where all these may be combined to a greater or less extent. These things should be taken into account in buying a farm.

Then market facilities are to be considered. In the management of a farm much depends on this, and it is a matter of moment whether it will cost five cents or fifty to bring a dollar's worth of produce to the consumer. In the vicinity of large towns the production of garden crops is often very profitable, while at a distance from market no dependence can be put on such products. The one can grow a large variety to dispose of—something every week bringing in the cash—while the other must necessarily devote himself to a few leading articles, his harvest occurring but two or three times a year. But the recent great increase in the means of transportation has done much to equalize the value of farming lands throughout the country, especially when devoted to the more valuable and least bulky articles of produce.

Again, a farm should possess in itself good capacity of production, so that it may be readily and profitably managed, in such a way as to retain and increase the fertility of the soil. A farm easily worn out—a course of management rapidly exhausting the fertility of the soil, would soon bankrupt the farmer; his business would no longer be remunerative; his home and his comforts would soon pass away. Hence it is not all to buy a farm; one must also have the skill to manage it rightly. To do business profitably, one must understand business principles and carry them out, and nowhere is this more important than upon the farm. The question is often debated whether farming is really profitable or not, but could we only see the fortunes lost by the careless habits of those who pursue it, the decision would soon be arrived at.

B.

THE HOP-YARD.

MESSRS. EDITORS—The first didactic poem in the English language, had Agriculture for its theme. It was written by Thomas Tusser, who was born about 1523, and died in London in 1580. It was published in 1557, and consists mainly of practical rules for farming; the verses, many of them, as rude as the methods of tillage then in vogue. The title of the poem was "A Hundreth Good Points of Husbandrie," which was afterwards expanded by other writers, and continued to be published in successive editions down to the year 1710, when the last appeared, entitled "Five Hundreth Points of Good Husbandrie."

The following gives directions as good for this year as for three hundred years ago, while at the same time it will serve as a favorable specimen of the poem.

Red Mills, Putnam Co., N. Y.

R. H. RICHARDSON.

THE HOP GARDEN.

"Whom fancy persuadeth, among other crops,
To have for his spending sufficient of hops,
Must willingly follow, of choices to choose,
Such lessons approved, as skillful do use,

Ground gravelly, sandy, and mixed with clay,
Is naughty for hops, any manner of way;
Or if it be mingled with rubbish and stone,
For dryness and barenness, let it alone.

Choose soil for the hop, of the rottenest mould,
Well-dunged and wrought, as a garden plot should;
Not far from the water, but not overflowed,
This lesson, well noted, is meet to be known.

The sun in the South, or else southerly and West,
Is joy to the hop, as a welcome guest;
But wind in the North, or else northerly East,
To the hop is as ill as a fay in a feast.

Meet plot for a hop-yard once found as is told,
Make thereof account, as of jewel of gold;
Now dig it and leave it, the sun for to burn,
And afterwards fence it, to serve for that turn.

The hop for his profit I thus do exalt,
It strengtheneth drink and it favoreth malt;
And being well-brewed, long kept it will last,
And drawing abide—if ye draw not too fast."

Introduction of Improved Blood by Crossing.

What better testimony can be afforded to the value of Improved Blood, crossed upon the common cattle of the country, than is found in the weekly reports of all our principal Cattle Markets? And we cannot but think that investigation in our Dairy Districts would also prove that it is the cross-breeds which are yielding the largest returns in Butter and Cheese, as elsewhere they are in Beef. It is nothing new or peculiar to the farming of this country, that such should be the case. The experience of English farmers and feeders points so strongly to the same result, that those competing for the prizes at Smithfield and Birmingham have of late more than once resorted to cross-breeding with success, as a means of winning; and no traveller who has examined with a practiced eye the common farm stock of that country, can fail to have been struck with the evidences of improvement it displays, derived from the use of pure blooded males of some of the standard breeds.

Mr. COLEMAN, a very intelligent writer on agricultural subjects, and if we are not mistaken the head manager of the extensive and highly practical farm operations at Woburn Abbey—contributes an article on the subject of Cross-breeding to a recent number of the Journal of the Royal Agricultural Society, of the truth of which American experience affords illustrations quite as ample as those he adduces from the farms of England. He gives it as his unqualified opinion that in the selection of beasts to fatten, crosses may be invariably taken to the best advantage—that they “will best pay the breeder, and be most sought for by the purchaser who intends to fatten.” So much is this a recognized fact that in Scotland the polled Galloways, as well as the Ayrshires, West Highland, and other breeds, are now crossed with Short-Horns to such a degree “that the pure breeds are very rarely to be met with, except at the shows of our Agricultural Societies.” In the west of England a Hereford cross is very common; and there, and throughout the dairying counties, “many of the small farmers who keep two or three cows manage to send them to the pure bred bull of a wealthier neighbor,” and it is conclusively proved that “a few pounds laid out on a good bull is an act of strict economy.”

In his own experience, Mr. Coleman has mainly tested a cross of the Hereford upon Norfolk cows; “these half-breeds,” he says, “far exceed my most sanguine expectations; * * at our annual sale of fat stock, held here every Christmas, I find if I have a crossed ox it invariably makes £2 to £3 more than the pure bred ones; and the reason is that the butchers tell me, they weigh so much better, are more fleshy, and give their customers greater satisfaction from the fact of the fat being better mixed with the lean. I have had cross-bred steers three years old making from £30 to £40 each, their dams being small Ayrshire cows, and the sire a pure Hereford bull.”

As Mr. Coleman has thus no prejudices from his own interest, or otherwise, in favor of the Short-Horns, we may receive his opinions as to the results of a cross from this breed, with great confidence, and we may add that the statement he makes is most fully borne out in this country. He says:

“The majority of the cross breed cattle we meet now-a-days partake more of the character of the Short-Horn than anything else, *so that to this breed belongs the credit of having done most towards supplying food for the million.* No matter of what sort or amalgamation of sorts the cow may be, a cross with a pure Short-Horn bull rare-

ly fails to make an improvement in size, quality, and fattening properties, if not in the milking powers of the produce.”

In conclusion, Mr. Coleman thinks that, as between pure animals of two improved breeds, the *first cross* is an improvement, while the result of *farther crossing* is likely to prove inferior to either of the pure breeds. And as to the general stock of the country which “cannot be said to belong to any pure breed,” he urges strongly that their owners “cannot do better than cross them with a bull of a pure breed,” particularly “where a farmer is not in a position to keep high-priced stock, either from want of means or of proper shelter for them.”

The advice given by Mr. COLEMAN is exactly in accordance with the views urged by the CULTIVATOR and COUNTRY GENTLEMAN, for the past twenty-five or thirty years. And we allude to the subject now, not only because our own arguments find so strong a supporter in the author of the article referred to, but also because it is our confident belief that *now*, while our farmers enjoy greater ease than usual in money matters, no investment is likely to pay them better than that which shall bring a well bred bull upon their farms or within the access of their neighborhood. If individual resources are insufficient for the purpose, a club should be formed to purchase a first class animal, for the services of which a reasonable sum should be paid. Some of the Massachusetts Farmers’ Clubs have repeatedly taken this course, to the great advantage of their members, and we suggest the example to the Farmers’ Clubs of this State. There are now good bulls which may be had at reasonable prices in almost every part of the country. The supply we think, in fact, can never have been better than at the present time, nor the opportunities of purchase so great—prices and the abundance of money both taken into consideration.

CURING HAMS WITHOUT SUGAR.

“E S. H.” of Niagara Co., says, in the *Rural New-Yorker*, that he cures hams with simple salt and water (brine) equal to any treated with sugar or molasses and salt. He is careful to place them in the cask shank downward, and while smoking has them on racks, with the rind down, instead of hanging up in the usual way, “thus both the pickle and the smoke retaining the juices of the meat.” Another correspondent, “P. P. B.” of Batavia, thinks his recipe not only the cheapest but very best in the world: “For every 16 pounds of ham take one pint of pure salt, and one ounce of saltpeter. Pack in a clean oak cask, sprinkling the salt between the layers of meat. Dissolve the saltpeter and pour it over the whole, adding sufficient pure water to cover (soft water is best.) Let them lie under the brine six weeks, then smoke.”

How to Cure Pig’s Feet, &c.

You kindly invite contributions. Nothing occurs to me at present save an item in domestic economy. As physicians and the affectedly fastidious, are increasing their Jew-like abhorrence of swine meat, I think anything tending to purify it of its offensive greasiness or oleaginous dyspeptic grossness, worthy of notice, and mention my practice, to wit: Trim as much fat from the head and elsewhere as possible, for lard—put all legs and residue of head in ham brine. Thus you will have your sausage meat less unhealthy and avoid souse—the head and legs making capital boiled dishes with vegetables.

To those who do not relish head-cheese, this is quite an improvement.

H. H.

Rutland, Vt.

[For the Country Gentleman and Cultivator.]

CULTURE OF HEMP.

MESSRS. EDITORS—In the Co. GENT. of the 12th inst. a correspondent (J. C. A. of Iowa) makes an inquiry in regard to the cultivation of hemp. As your reply is not full, and in one or two particulars does not strictly accord with the practice of the hemp growers of Kentucky, I will endeavor to answer more fully the request of your correspondent.

The hemp that is grown in Kentucky, (the largest hemp growing State in the Union,) is chiefly dew-rotted, and until the breaking out of the rebellion was mostly manufactured near where it was grown into bale rope and bagging. For many years the United States government has made efforts to encourage the farmers to water-rot their hemp, but comparatively few of them have been induced to abandon their early custom of dew-rotting, notwithstanding the price of the water-rotted article is largely in advance of that which is dew-rotted. It is probable that the quotation of prices to which your correspondent refers, are for the imported water-rotted hemp.

Soil and Preparation.—Hemp requires a dry, light and rich soil. It is frequently permitted to follow hemp on the same land, when a similar course with most any other crop would not be tolerated by a good farmer. Hemp is said to be less exhausting to the land than the cereal grains, and it leaves the ground in more perfect order for the same crop than any other. If hemp is sown on sod land, it should be broken up in the fall, and again plowed in the spring; but it is better to follow a well cultivated crop of corn. The first plowing should be deep; it should afterwards be cross plowed, rolled and well harrowed.

Seed and Time of Sowing.—About five pecks of seed is the usual quantity per acre. It should be sown broadcast. If put in drills at the distance apart suggested in your reply, it would grow too stocky, and be liable to branch, and render it unfit for the break. The seed should be sown upon freshly harrowed land; after the seed is cast it should be again harrowed, and then cross harrowed.

Time of Sowing.—The time of sowing hemp varies, like all other crops, according to the opening of the season. In the latitude of Kentucky the proper time of sowing generally ranges between the 20th of April and the 15th of May.

Time of Cutting.—The proper time to cut hemp can be determined by the appearance of the staminate plants. These mature first, and when they have cast most of their pollen, and begin to assume a yellowish appearance, the crop may be cut. Hemp is cut with a knife made expressly for the purpose. The blade is about 15 inches long, and standing at a little more than a right angle with the shank; the shank also has a slight angle in it—the whole shank and handle being about twenty inches long. To cut hemp with the greatest ease, it is important that the various requisite angles of the blade to the shank should be maintained. In cutting, the hemp is grasped with the left hand and arm, and spread upon the ground as the cutting proceeds. It is permitted to remain on the ground, exposed to the sun, a day or two, when it is put up into loose shocks. When thoroughly cured it is bound up in convenient bundles and stacked. In the fall it is again spread upon the ground for rotting like flax; and in the latter part of winter and in the spring, it is dressed during dry weather in the field; the process being similar to that of breaking and dressing flax. It is however, after being rotted, again put up in shocks, to remain until favorable weather for dressing. When sent to market, requiring any considerable distance of transportation, it is put up in bundles, similar to hay.

Water Rotting.—In order to encourage the water rotting of hemp, the U. S. government established an agency in Lexington, Ky., and offered the highest price

for all the water rotted hemp of good quality that could be raised, it having been ascertained that the American hemp was superior in quality and strength of fibre to the imported article. Yet, notwithstanding the high price paid for the water-rotted article over the market price of that rotted in the ordinary way, the government has never been able to obtain but a very small quantity of American grown hemp for naval purposes.

The most proper season for economical and complete water-rotting, is immediately after the hemp is sufficiently cured. If done at this season, the labor and expense of stacking may be saved. At this period, too, the hemp rots much more speedily than in cooler weather. The time required for rotting is governed entirely by the temperature of the water. It is by putrefactive fermentation that the process is accomplished, and the most suitable temperature for this is from 60 to 65 degrees of Fahrenheit's scale.

In the month of September it will require from five to eight days to complete the process, and later in the season, longer, according to the degree of temperature.

Method of Constructing the Vats.—Vats for water-rotting hemp are constructed where a supply of water can be obtained from an upper spring, so that the water may be let on and drawn off at pleasure.

Vats or pools are sometimes made by simply digging into the earth. But the best vats are constructed of brick or stone, and cemented with water lime. They should be four feet deep, and of the length and width suited to the quantity of hemp to be rotted. Sixteen feet wide by seventy-five feet long would be convenient dimensions. In laying up the side walls, two upright pieces of timber to each tier of hemp, should be permanently secured to the walls; through these uprights mortices are made, into which cross timbers are keyed to confine the hemp down when the water is let in. Judgment and experience must determine when the hemp is sufficiently rotted. When the rotting is completed, it is spread upon the grass to dry, preparatory to dressing.

When the hemp is dressed for government use, it is put up in well prepared bales of about 400 or 500 pounds each, and covered with bagging and secured with bale ropes.

Seed.—The most reliable seed may be purchased in Louisville, Ky., or St. Louis, Mo. But a very small portion of seed sold in these markets is for sowing; thousands of bushels are sent abroad for birds. In buying seed for sowing, none but that which has been grown for the purpose, and *cultivated*, should be received, and that of the *last season's* growth. When the crop is grown for seed, it should be planted about the first of May, in rows about three feet and a half apart, and the hills two feet distant. It should be carefully hoed while young, and cultivated through the season like corn. The plants should be thinned to one or two in a hill, and when the early blossoms appear on the staminate plants, these should be chiefly pulled up, leaving only an occasional plant to fertilize the crop.

I have but briefly touched upon many of the important points connected with the growth and preparation of this crop, fearing that I might overtax your columns.

H. P. B.

[For the Country Gentleman and Cultivator.]

Recipe for Curing Scours in Sheep.

Take about six inches of a common tallow candle, open the sheep's mouth and shove it down her neck. I have never known it fail of a cure. It may sometimes need the second dose.

W. P.

To Kill Lice on Calves.

Take a good sized tow string—grease it well—then rub on it a quantity of unguentum and tie it around the calf's neck, and the vermin will soon skedaddle. I think it perfectly safe and effectual, as I have tried it repeatedly in cold winter weather.

W. P.

[For the Country Gentleman and Cultivator.]

DAIRYING AND ITS PROSPECTS.

Important Requisite for Improving the Quality of Cheese.

EDITORS COUNTRY GENTLEMAN—Among the several branches of farming, cheese dairying to-day holds a prominent place. The economy of making use of cheese for food is imperfectly understood. Professor Johnson says that a pound of cheese is equal in nutritive value to two pounds of flesh. The Europeans seem to be better acquainted with this fact than our own people. With us, cheese is regarded rather as a luxury, while in England it is considered one of the substantial articles of food, and it is not uncommon for workmen there to make a full meal on bread and cheese alone. Why has not cheese been introduced into our army rations? It is easy of transportation, highly nutritive, would be regarded as a luxury by the soldiers, and is promotive of health as well as strength. On the score of economy, it would appear to commend itself to our commissary department.

Cheese-dairying in these times is *especially* profitable, because cheese commands foreign gold, and gold is at a high premium. The foreign demand for cheese has been increasing year by year, (with great rapidity since 1858,) until it has reached a point when the whole product of our country can now be marketed abroad.

During the year 1861, according to English statistics given by Mr. Boules of London, ninety millions pounds of American cheese were imported into Britain. Considerable more must have been sent abroad during the year last past; and as far as market and prices are concerned, our dairymen are not dependent on home trade—it is our brethren across the Atlantic that make the prices—they desire our cheese, and are willing to pay for it, if the *quality* be made satisfactory. In 1850 the census gives a little over one hundred and one half millions of pounds of cheese, as the total product of that year in the United States. In 1860 it gives 48,543,288 pounds as the product of the State of New York. So active has been the exportation of cheese during the last year, that Philadelphia and New York, (the great marts for American cheese,) are now comparatively bare of cheese for the spring trade. I will venture to say, that these cities, for many years past, have not been so empty of cheese as now; and the spring trade must open at a high figure. Last fall, some of our factory made cheese sold by the quantity at the factory, at 14 cents per pound, and some of large size as high as 17 cents.

With the present prospects, together with the rates of gold and bills of exchange, it is believed that "tip top" cheese will readily net the manufacturer 15 cents per pound, for shipments of early made. At these prices it will be readily seen whether cheese dairying is a "living business." A cow yielding annually 600 pounds cheese, turns \$90; 20 cows bring in \$1,800; 30 cows \$2,700, and 60 cows \$5,400.

But to realize high figures, the finest quality of cheese is required, which to the uninitiated is often for the most part, no easy matter to produce. Some dairymen practice all their lives, and are unable to make a strictly *prime dairy*. Ask any of our great cheese dealers—the Perrys, Harry Burns, Mr. Farrington, the Ives,—all Herkimer county men who have contributed to build up the European trade in this staple—and they will point out such dairies by the score.

Many dairymen work too much by guess, and without fixed rules of manufacture, depending entirely on judgment and feelings in conducting their operations. This is all well enough and proper, as far as it goes, but if uniformity is desired, the aid of science must be called in.

I desire to call the attention of your readers at this time, to but one point only in the manufacture of cheese, a point which, if observed and practiced upon, will for the present year alone, save in almost every dairy more than

enough to pay the subscription price of a good agricultural paper for years, and in many instances for life. It is with regard to the proximate acidity of milk when about to be manufactured into cheese. Every dairyman knows that spring and fall cheese are liable to be poor in quality—often so poor as to be nearly unsaleable, or selling at one-half and one-third the rates of a choice article. Such cheese has not been properly made. I refer more particularly to cheese that is soft—where the curd was difficult to cook, and which could not be made to assume in curing, a firm, solid, close texture, but will be "huffy and springy." Cheese of this character often occurs in first class dairies of the best dairy districts, and dairymen generally are unable to point out the true cause, though the general excuse is, that there was a "mistake somewhere in not cooking the curd sufficiently." The whole difficulty grows out of the condition of the milk—it is too sweet when coagulated, and in that condition can not be made into first class cheese, *after the ordinary methods*.

Such milk must be treated with sour whey.

The use of sour whey, from time to time, in spring and fall, we deem imperative, if uniform fine flavor and choice quality of cheese is desired.

I do not propose in this article to discuss the reasons *why* this acidity is necessary, or to point out the precise degree necessary for the best results—this last must be learned by experience; but we shall give some data that will serve as a general rule or basis to operate on, and by which, the intelligent dairyman may soon, by a little practice, learn the proper condition of milk and test the matter for himself.

When the night's milk in the morning stands no higher than 61°, the morning's milk may be added, and at the time for putting in the rennet, some whey should be added and stirred in to the mass, in the proportion of 2 quarts whey for every 60 gallons milk.

If the night's milk stand below 60°, a larger quantity of whey must be used, and the quantity of whey always graduated according to degree of sweetness of the milk. If the night's milk stand at 65° or above, it may have acquired sufficient acidity to render the use of the whey unnecessary.

The whey used should be distinctly acid, about like that coming from a sweet curd in summer and standing 24 hours. Milk treated as above will form curd of an entirely different character from that which has acquired *sensible acidity* at the time of putting in the rennet. The curd from milk treated with sour whey will be all that can be desired, will work down evenly and without trouble, the cheese curing with a firm compact texture, retaining more of the butyaceous matter, and having that mild, rich, pleasant flavor, peculiar to first class cheese.

Little Falls, Herk. Co., Feb. 16.

X. A. WILLARD.

CURING BROOM CORN.

In answer to your correspondent H. H. M., as to the best method of curing broom corn out of doors, I would say I have had some experience in the matter. If he is obliged to cure his brush in the open air, I would recommend him to get light scantling, say 2 by 2, or narrow boards will answer equally as well. Use two strips for each row of brush—elevate it from the ground sufficiently to allow a free circulation of air beneath, and turn it once a day. At night let two men—one at either end—remove brush and poles or boards, and tier them up in some convenient place under shelter, as the heavy dews tend to retard the curing and stain the brush. I would recommend to H. H. M., however, if he has a stable, without stalls, or a hay loft not entirely filled, that he can allow a circulation of air through, a small expense in erecting a frame and spreading brush as before, on edging in tiers, 6 to 8 inches space between, will be less trouble, and cure his corn more satisfactorily. If he intends to continue long in the business, I would recommend him to build a dry-house. S. SHELDON. Schuylerville, N. Y.

HIGH WAGES AND HIGH PRICES.

Every one desires to receive high wages for his labor, although his gains must come out of another man's pocket. The same remark is true of high prices. There are certain instances however, where farmers may receive high wages and high prices, without any corresponding deduction to be made on another man's account. These instances every good farmer should well understand. If they are small, they are quickly accomplished; if larger, the advantage is of a correspondingly greater amount.

Many laboring farmers would be glad to get winter work at one or two dollars a day, and five or ten times as much as the usual price for products or materials. In summer, if their dollar a day laborers could be made to yield them five dollars a day, they would regard it as a splendid speculation. We shall mention a few instances, where at least this amount of gain might be obtained. Their observation and ingenuity will point out many others. Among some of these examples, which may be acted on at the present time, we may mention the following: A large number of farmers are in the practice of foddering their cattle by throwing their hay upon the ground; whenever the yards are muddy, which in many places is nearly one half of the whole foddering season, the cattle tread a considerable portion of the hay under foot, and it is entirely wasted. Ten to twenty per cent. is not an unusual loss; and the farmer who feeds out fifty tons of hay in a winter, wastes annually therefore five to ten tons of hay—worth at a moderate estimate from fifty to a hundred dollars. Two or three days labor, and two or three dollars worth of lumber or poles, would furnish good feeding racks and entirely prevent the waste. It will thus be seen that if his labor is rated at five dollars a day, and the lumber at triple the usual price, he will make an actual saving in a single winter, to say nothing of a series of years to come. We advise every farmer who has an opportunity of receiving such high prices, to seize on it at once, without any fear or conscientious scruples of robbing any other man's pocket. Another instance; we know a farmer who feeds 50 or 60 head of cattle from stacks in the open fields, exposed to sweeping winds and snow storms. The additional food required to keep up their animal heat, and the loss of flesh, which their suffering condition occasions, we are satisfied amounts to at least one-third of all that is fed to them. If therefore they consume a hundred tons of hay each year, thirty-three tons, equal to some three hundred dollars, is yearly thrown away. Good well made barns or sheds would doubtless pay for themselves, several times over the next dozen years; but in the absence of these, a few days labor in providing temporary shelter, would probably be rewarded at the rate of some ten dollars a day or more. Rough built sheds with straw roofs would pay for themselves and save enough in two or three years to erect neat, comfortable, substantial barns or sheds.

There are some smaller opportunities for similar profits which should not be overlooked. A neighbor drives his cattle daily half a mile to water; the labor which this requires would in a short time, enable him to sink a tub at a spring, where they could partake at all times, without the injury of over drinking once a day, and thirsting all the rest of the time. A gate for want of a good latch, is left swinging in the wind, and in a few months is beaten to pieces; thus for want of a simple latch, the gate is destroyed. A chimney becomes filled with soot. But the

owner could not devote an hour's labor at the right time to scrape or burn out this accumulation, in consequence of which it took fire in the night, threw burning cinders from the chimney-top to the shingled roof, set fire to the dwelling, and consumed one or two thousand dollars. We advise those who have not attended to their sooty chimneys to spend an hour or two when the roof is wet, in removing the difficulty.

We need not continue these examples, except merely to name a few more instances, where similar benefit may be derived; such as making strong yard fences to prevent the escape of cattle into mischief, or the ingress of intruders; closing any openings through which cold air sweeps into stables, kitchens or under the floors of dwellings; providing warm, dry, clean beds for store hogs in winter; sheltering and painting tools, and keeping them in best working order; preventing the waste of manure; securing grain from rats; attending constantly to the comfort of all animals in winter, feeding them regularly, &c.

There are many instances of a similar character occurring during the summer season. Sometimes a few days labor in underdraining, will relieve a wet portion of ground of its surplus water, and be worth many dollars. Destroying weeds among root crops when only an inch high, is not the tenth of the labor required when they have grown a foot, to say nothing of the loss in the crop, which an over growth of weeds occasions. We have known a crop of oats diminished one-half in amount, by being sown a fortnight later than another alongside. A few hours attention in procuring the best seed corn, has sometimes resulted in a hundred bushels increase in a ten acre field. A similar care in breeding from the best swine has saved a like amount in feeding, and double its value in the quantity of pork. The best plow, that runs a fourth easier than a common one, will save twenty-five days of team labor in a hundred. There are many other examples, which the intelligent farmer will discover in the course of a season, if he is attentive to all the sources of information which practice and reading point out to him.

STRETCHES IN SHEEP.

I saw in THE CULTIVATOR, the remarks of Mr. McL. and others, concerning sheep stretches. I send you my experience for about fifty years. When you first discover the stretches, take the sheep, and you will find a woolly tube in each foot, right above the hoof, in the center of the parting top of the hoof, between the leg; there you will find an issue something like the issue in swine. Take a sharp pointed knife and insert the blade about half an inch, and rip the knife right out in front of the sheep's foot. Generally it will cure them. I have sometimes had to open them three times and fill the tube with fine salt.

I keep a small flock of sheep. I have had almost every winter more or less affected with the stretches. It will generally attack as good sheep as any in the flock. If they are not attended to, they will not eat, and will die. One of my neighbors had a sheep that had the stretches. I asked him why he did not cure that sheep? He said it was nothing but a whim. The sheep continued to stretch several days, having eaten nothing since taken. The issues were pale and swollen. I inserted my knife into those woolly tubes, and ripped them out and filled them with salt. He came to me and said, my sheep, in less than one hour after your operation, was up and eating. In a few days the sheep was as well as the rest of the flock.

Columbia, Ct., Feb., 1863.

S. LOOMER.

NEW SEEDLING FRUITS.

Although we already have a vast catalogue of fruits, yet we are not quite satisfied with any one of the great multitude. A single apple or pear cannot be named that has not some defect or deficiency, either in flavor, growth, productiveness or hardiness. While, therefore, we have so many, we wish to obtain others that are better, or at least a larger list from which we can make a more perfect selection. Hence, it must be a long time before we have ceased to raise new varieties.

A late number of the Magazine of Horticulture, re-published the interesting statement of Thomas Rivers, who has experimented very extensively, both with cross fertilization and simple re-production, and who raised no less than 80,000 seedling plums. Very curious results were thus obtained, a few of which we briefly mention. Some varieties of the pear prove to be remarkable for reproducing nearly the same. Among them the Passe Colmar, Glout Morceau, Marie Louise, Capiaumont, and above all Josephine de Malines. A large number of seedlings were obtained from the Ne Plus Meuris, a late winter variety, with the hope of adding to the list of long keepers. The young trees closely resemble the original, but, when they bore, all the fruit ripened in autumn. The same result was usually obtained from seedlings of winter pears. A seedling Aremberg resembled its parent but ripened in August. An excellent seedling. Winter Nelis, ripened in September.

It is a common opinion among casual observers that the different varieties of the peach are reproduced with scarcely a variation. We have generally ascribed this opinion to a want of accurate observation, and noting nice shades of difference. It appears, however, from these extensive experiments, that while some varieties scarcely vary in their seedlings, others give widely different results—in some instances, peaches producing nectarines and nectarines peaches—and clingstones yielding freestones and *vice versa*. The Early York (serrate) was found generally to vary but little in its seedlings; one, however, the Early Victoria, was earlier and must, therefore, be valuable, and another bore larger and finer nectarines. The White Nectarine produced fruit generally, similar to the parent; one variety, however, being more valuable for its vigorous growth, and another a fine, white-skinned peach, the tree exactly resembling the White Nectarine in growth and appearance. From Gregory's Late Peach, a very good melting free-stone sort, large cling-stone peaches were produced which ripened fully a month before its parent. From Pavie de Pomponne, one of the largest and latest of peaches, he raised a very fine, melting free-stone peach, much like its parent in the beautiful waxy tint of its skin, and in its very large flowers and leaves, but it ripens a month earlier or just before the Late Admirable. The Royal George was found to reproduce itself from seed with rare exceptions. The same may be said of the Noblesse and Grosse Mignonne. The Belle-gards peach produced some small, dark-colored nectarines of no value. The Pitmaston Orange, possessing large, bright blossoms and orange colored fruit, produced, among twenty seedlings, those that closely resemble the parent, with three exceptions, one a week earlier with different glands on the leaves, the second ten days later, and the third a large crimson peach of most excellent flavor. The Hardwicke seedling nectarine gave a seedling with the large flowers and ser-

rated leaves of its parent, but its fruit worthless clinging-stone peaches. The Newington, a clinging nectarine, gave a seedling producing late melting peaches, good but not better than the Late Admirable peach. Fairchild's Early Nectarine, with a bright, golden fruit, reproduced itself without the least variation in leaves, fruit or flowers.

Rivers has advanced the opinion, in connection with a large number of instances, that cross-fertilization has, on the whole, been much less successful than the simple reproduction from good sorts; but he should have borne in mind that where one cross-seedling has been raised, thousands of others have made their appearance in all parts of the world. No discouragement should be thrown on the attempt to improve varieties by crossing the flowers. Clipping out the stamens with the scissors as practiced by Knight, is too slow and tedious a process; the close-planting adopted by Dr. Kirtland is much better at least for the fruit raisers of this country. If two dissimilar trees are placed in close contact, so that the winds or bees may indiscriminately mix the pollen among the interlaced branches, a large number of crosses may be thus very easily obtained. Planting, for example, a dwarf apple tree of the Esopus Spitzenberg, for its richness of flavor, in the same hole with a Fallawater, or with a Hartford Sweeting, both of which are fine growers, but moderate in flavor, we might obtain some valuable results; or the Swaar might be planted with the Rome Beauty, or the Fameuse with the Poughkeepsie Russet. The richness of the Seckel, which is deficient both in appearance and growth, might in the same way be imparted to the Howell, of rather deficient flavor, but of nearly unequalled growth and productiveness. The Flemish Beauty might be crossed with the Winter Nelis or Kirtland; the Louise Bonne of Jersey with the Rostiezer or Giffard, or the Bartlett with the Fulton or Doyenne.

ICE HOUSE AND FRUIT ROOM.

A correspondent speaks of arranging a "fruit room" and "ice house" together. What is the proper arrangement, and what the uses? Should both be on a *level*, either *above* or *below* the surface of the ground? Should they communicate with a door or only an open window, and is not this ante-ice room fine for storing meats, milk, vegetables, &c.? In a late number you speak of almost any shanty keeping ice. If so, does it pay to put up the more expensive double roof and sided ones? If so, would dirt (or soil) or sand answer a good purpose to fill the double walls, and would not 4 or 5 inches of space filled with plaster (gypsum) as ground for sowing, be a good non-conductor, or would it be liable to become moist, and thus hard as stone nearly?

Schuyler's Lake, N. Y.

C. P. B.

The cold apartment may be adjacent to the ice apartment with only a thin partition between; or the air may flow over the surface of the ice and pass into the apartment through an orifice. This will make it colder, but will melt the ice very rapidly—observing in all such arrangements that cold air flows downward just as hot air does upward. These apartments may be either above or below ground. If above, they should be lined with ten inches of well packed saw-dust, and will answer all the purposes of a cold cellar. The only object of an elaborate structure are neatness of appearance and avoiding the extra care of lining and packing saw-dust as the ice is filled in, by providing a permanent lining. Neither soil, sand or gypsum will answer the purpose well, as neither are good non-conductors of heat, except the latter, which would be sure to become spoiled by the water from the melting ice.

BEST FEED FOR MILCH COWS.

MESSRS. EDITORS—The dairy interest in this State is of great magnitude, and every year increasing in importance, not only in quality but in quantity also, and if we believe the statements of some writers on the subject, it is to become of still more importance. As an article of commerce the products of the dairy of this State, also of several other States where the business is beginning to develop itself, are beginning to attract the attention of our merchants, and if the quality only is such that we can effect sales abroad (it may be if care is taken in its manufacture) the business can be very successfully prosecuted. But in order for its successful accomplishment, we must have good cows to start with. Each dairyman will of course exercise his judgment as to what they shall be. Then good keeping and care are requisite for the cows, to make the business profitable for the dairy farmer.

I have been led to these remarks by the articles of Wm. J. PETTER of Conn., in Co. GENT. of Jan. 15th, also from J. H. B., in Co. GENT. of Feb. 5. The manner of feeding by these gentlemen is good, but I would include a greater variety of food if possible. Apples I consider as good as any of the root crops, if properly saved, and fed to milch cows, say a peck or half a bushel per day, or more if they are plenty. Also I am much in favor of giving a little corn meal with them, say from 2 to 4 quarts per day; it not only increases the milk but makes it of good quality and the butter of fine color and flavor. In fact, I think corn meal the best of any meal or bran for the purposes of giving to a milch cow whose quality of milk or butter is an object. I would also include rowen, or the second crop of hay, whether clover or other grasses, as a first quality feed for milch cows in the winter, which in some moist seasons can be cut to a profit, if the first crop is sown early; then both crops are excellent for that purpose. Also I have found by experiment, that cabbage is a good article of food for dairy cows in fall and early winter, and a large amount of them can be raised on an acre. Cows fed on them will give an ample supply of milk of good quality, if they are given fresh and no decayed leaves or heads fed to them. I have no doubt but cabbage can be given, after sowed corn is injured by frost, so as to be as profitable for a month or two as any green feed that can be given in this latitude, and light frosts do not injure them for feeding purposes.

Rome, N. Y.

JONATHAN TALCOTT.

FOOT DISEASE IN HORSES.

You have an article with this caption, page 92, current vol. of Co. GENT., and as I have been almost precisely in the same predicament as was your Kentucky correspondent, I wish to tender him my thanks for his valuable article.

I used my horse a long time without being able to ascertain the seat of his lameness, when a neighbor suggested it might be a disease of the frog, which he called the "thrush." On examination, this proved to be the case; the frog was seriously diseased as was "H. T. H.'s" animal, and by thorough cleansing and application of spirits turpentine and hot tar, and the use of the high heeled shoe, which is all important in order to bring the frog up from the ground and prevent its being bruised, a cure was speedily effected.

Cole, in his "Diseases of Animals," gives the cause of this complaint as the "long continued application of moisture to the foot and plethoric state of the body, and sometimes by standing in moist dung," and prescribes as a preventive, "to keep the feet dry," which is not generally practicable; perhaps, where a horse is in daily use. I

am satisfied your Kentucky correspondent will find this the correct name for the lameness of his horse, and would suggest that when one has an animal lame, and cannot readily discover the seat of the trouble, to examine very thoroughly this portion of the foot, as it usually commences deep down, in at the very point of the frog.

It is in some cases similar to the "fouls" in cattle, and the same causes are said to produce it, as those cattle in moist or swampy sections are most liable to it. Also do the two diseases seem to yield to the same remedies, as in the case of fouls, thorough cleaning and the application of turpentine, tar or vitriol are efficacious.

Salisbury, Ct.

W. J. PETTER.

DISEASE IN SHEEP'S EYES.

MESSRS. EDITORS—Your correspondent D. E. L., in the Co. GENT. Jan. 1st, page 16, inquires the cause and remedy for sheep getting blind. I have had sheep affected in the manner he describes a number of times, but cannot for a certainty assign any particular cause. I have suspected it was caused by pasturing for a length of time on low wet land. My remedy is (and I have never known it to fail in effecting a cure) to make a transverse cut about half an inch below the internal angle of the eye, about five-eighths of an inch in length, and as soon as the blood begins to flow, turn the sheep's head back, and let the blood run into the eye. This is all that is necessary to be done. It will be observed that where the incision is made, the bone is barely covered by the skin, and a small vein will be divided by the cut. Your correspondent need not fear that any very serious consequences will arise from the blindness, as I have often known the sight of the eyes to become restored without making use of any remedy. I am indebted to a Scotchman who was skilled in sheep husbandry for the above remedy.

Lyn. C. W.

M. M. HOWARD.

LARGE vs. SMALL HORSES.

MESSRS. EDITORS—I noticed an article in a late no., entitled "Large vs. Small Horses." I am not in the habit of writing for publication, but I wish to say a few words with regard to large and small horses. In the first place, I agree with the statement with regard to what is said about models and machinery, but when the writer applies the same principle to horses I differ with him. He stated that a horse weighing 900 lbs. would do all the work of a horse weighing 1,100 lbs., with as much endurance and with less feed. This is a mistake. I shall speak from experience. I have two teams on my farm, one weighing about 1,200 lbs. each, the other weighing 900 to 1,000 lbs. each.

Now the team that weighs 900 lbs. each, I use to do light work, such as dragging and going on the road with light loads, but if I am going to market with a heavy load I always take the large team. You have noticed, (or at least I have,) that when a light team was attached to a heavy load and the wheel struck a large stone, it would throw them off their balance, whereas with a heavy team the obstruction would hardly be noticed by them. I have noticed the same in plowing, that a small team would have to wiggle and stagger around to draw what a large team would go right along with steadily. I generally plow with a three-horse team abreast, and I never want a horse to weigh less than 1,100 lbs. to plow with. If they weigh 1,200 lbs. each, so much the better. A horse that weighs 1,200 lbs. will draw 1,200 lbs. as easily as a horse that weighs 900 lbs. will draw 900 lbs.

The Maine Farmer says a 900 lb. horse will do the same work as a 1,100 lb. horse, with less feed. If he has found this so, I do not know where he has found it. I find that when I work a light horse against a heavy one, I have to give it the advantage on the whiffletree, or on the grain; if not, it will shrink and grow poor. I know

that three horses, that weigh 900 lbs. each, will plow and do a good deal of work, but how do they do it? They have to exert every nerve, and strain every muscle, and will soon become limb-puffed and unsound. I will admit there is a difference in horses of equal size; some are superior to others, but all things considered, as far as I have noticed and my experiments have gone, I say give me a large horse.

I contend that a horse that weighs 1,200 lbs. will do the work of a 900 lb. horse on the same feed, but I should hate to have a 900 lb. horse do the work of a 1,200 lb. horse, providing you fed him the same. I fear he would soon wear out, and soon become an old horse in his young days.

A READER OF THE CULTIVATOR.

TO SAVE BROOM CORN.

If done in open air, lay two large rails on the ground ten feet apart, as if to build a square pen. On these lay rails, say 18 inches apart, and spread a tier of corn on them. Now lay two rails across the ends of the scaffold tier, on which to lay another tier of rails for scaffold; spread corn, and continue in the same way till you get say ten feet high, or as high as the corn can be conveniently thrown. As you get near the top, raise one side faster than the other, so as to give a slope for the roof. Cover with twelve-foot boards, so as to project a foot all round, turning the slope of the roof in direction of the prevailing storms. You thus have tiers of scaffolds ten feet square, eight inches apart, and ten to twelve feet high. If the seed is on the corn, spread thin. I clean as it comes from the field, so can put double as much on a scaffold.

Broom corn should be cut when the seed is just ready to fill. A dew or shower on it when fresh cut, does not injure it much. After it is partly cured, it should be kept dry. Care must be taken not to spread thick enough to heat, or to bulk before thoroughly cured.

Winding up where I should have commenced, the rows of corn should be three feet apart at cutting time. A man walks backward breaking two rows across his knee, crossing each other and forming a table on which to lay the corn as it is cut, to take a day's sun before taking it to barn or scaffold.

M. L. D.

Des Moines, Iowa.

A GOOD CORN MARKER.

In the last number of the ANNUAL REGISTER, I see a description of a corn marker. I have tried one of that kind and it was much better than the slow process of marking out with a plow, but they will not run steadily where the ground is not perfectly smooth and clear of clods and stone. For the last two years we have had one which we think could not be improved. It consists of three runners, 3 by 6 inches, about 3 feet long and placed 3½ feet apart from centre to centre, and securely braced by strips across the top. They are rounded on the under side, in front, like sled runners. In the centre is fixed a stationary tongue or pole to which we attach two horses. In driving, walk back of the centre of the marker, and sight over the end of the tongue to the stakes. Having two horses you can see between them and run a much straighter furrow than when only one horse is used. The tongue makes the marker run steadily, and the runners make straight, smooth marks, which cannot be mistaken for the marks left by the harrow.

Prepare three stakes 10½ feet long, or if you desire the runners to be 4 feet apart, make the stakes 12 feet long. Set the stakes in a line as near the fence as you desire, placing one at each end of the field and the other in the middle. Before commencing, take up the stake where you are going to start, and measure one length of it from the point where it stood, and set it to return by; now drive steadily to the next stake and move it in the same

way, then to the third and stand it in range with the other two, mark the point where it stands with the foot, and measure from there one length of the stake and plant it to return by; now start with the end of the tongue in range with the other two stakes and proceed across the field as before. Hold the lines steadily, and keep them drawn tightly, and if the horses walk fast, all the better. If the marker is made with more than three runners it will be too lengthy to be easily managed; and with one of this kind we have marked 10½ acres both ways in a day. Some have a seat fixed upon them; we tried it, but could not get over ground fast enough as it dragged too heavily and we preferred walking. TYRO LINGO. Salein, Ohio.

HOW I RAISE POTATOES.

MESSRS. EDITORS—It is a matter of prime importance to all who raise this staple article of food, to an extent beyond that of the mere garden patch, to lessen as far as possible the cost of production. Horse labor is the secret of producing crops cheaply. Horse labor, as far as it can be applied, is more profitable and more satisfactory every way, to the farmer, than hand labor, and moreover, now that so much of the bone and muscle of the country is engaged in the laudable occupation of putting down the rebellion, it becomes a matter of stern necessity to use the horse, and used he is, and will be, for many purposes not dreamed of in the philosophy of the past generation.

I select for my potato field, a gravelly, well drained soil, plow rather deeply, harrow fine, and mark out with my corn-marker, the rows three feet four inches apart. I then take "Shares' horse-hoe," with the teeth removed, and with one horse follow the marks and open a furrow as deep as possible. Drop the seed about eighteen inches apart, cut side down every time. I cut potatoes of ordinary size in from two or three pieces. I now take the same implement with which I opened the furrow, spread the wings well, and pass through each space between the rows, covering them in the nicest possible manner—deeper and better than any dollar a day hand would do it. As soon as they are up large enough to hoe, I go through with the same horse-hoe, hilling them slightly, and at the second hoeing run the machine deep, making a high hill, with quite a deep gutter between the rows. I think this affords great protection in a wet season, and potatoes are not apt to suffer from drouth. Hand labor is found to be almost entirely unnecessary, still we generally follow with the hoe, about as fast as a man would travel, fixing here and there a hill, and hoeing the ends of the rows. I have not as yet dug my potatoes by horse-power; this would lessen still further the cost of production.

The kind of potatoes planted in the experiment of which I give you the figures, were Garnet Chili, Pink-eye Rusty-Coat, Cuzco, Prince Albert, Coppermine, New-Hartford, Kidney, and Central City. The figures stand thus:

Plowing one acre.....	\$1.00
Harrowing, marking, and furrowing.....	.50
15 bushels seed, at 50 cents.....	7.50
Cutting and dropping.....	1.00
Covering.....	.25
Horse-hoeing twice.....	.50
Hand-hoeing.....	1.25
Digging and carting,.....	10.00
	\$22.00

I had three hundred bushels per acre, which makes them cost just seven and one-third cents per bushel, without adding interest on land, which would increase the cost a little, varying according to price of land. As I have raised the old varieties of potatoes, with a result of 75 bushels per acre, I reasonably call this a success, and think the credit is due mainly to the kinds planted, which were principally of the three first above mentioned.

Moravia, N. Y.

J. H. JEWETT.

Keep your body sound; as wine savors of the cask it is kept in, the soul receives a tincture from the frame through which it works.

[For the Country Gentleman and Cultivator.]

Tobacco Culture in the South-West.

Preparation of Plant Beds, &c.

The best time for burning plant beds, is in the fall when vegetation is dried up by frosts. Any time during November will answer. Select rich loamy new ground, that is perfectly dry; then cut and pile "compactly," plenty of wood and brush upon the spots of ground selected for plant beds; then burn the first dry windy day. A bed 30 ft. by 30 ft., or an area of 900 feet, will furnish plants for five acres of ground. The months of January and February will be the best time for sowing the seed. [This, it should be remembered, is for Southern Illinois.—Eds.] It is generally believed by large tobacco growers in Kentucky, that beds sown in January furnish better rooted plants than beds sown in March. Break beds with plow, or dig with mattock immediately before sowing; then harrow well and finish with hand rake. Mix one tablespoonful of seed with four or five quarts of dry sand, and sow evenly. The above quantity of seed is a great abundance to sow on a bed of the above dimensions, to produce early and strong plants. Water the beds freely during April or May, with branch water, or with guano, or other manures in the liquid form. This will forward plants a week or ten days. It is very important to have sufficient thrifty plants of proper size to set out the entire crop at first planting. This will give a uniform stand.

Plants treated as recommended will be ready for setting out by the 20th of May. Yellow, Pryor and large Oronoco, are the varieties thought best of in Green River and Clarksville districts—the Pryor is finer in texture somewhat than the latter, especially when grown on thin land, but scarcely any difference in texture when grown on rich land; however, the Oronoco is a thicker, heavier bodied tobacco than the Pryor, hence I prefer it. I have found those beds which I have neither rolled nor tramped, did as well as the ones which were rolled.

Preparing Ground.

I consider late fall or winter plowing as being of the greatest importance. When thus treated, the cut-worms will not molest the plants after setting out; would also advise twice plowing in the spring, once when plowing for corn, second time some four or five days before planting. Harrow well and mark off both ways, in rows three and a half feet apart. Then set the plants in corners of squares, being careful always to select the same corner of squares, else the rows of plants will be crooked. Hilling has been abandoned by all large tobacco growers in the South-west. Clean and thorough culture is absolutely necessary to insure a crop of large leafy tobacco. By using the double shovel plow or cultivator, hoeing can almost be dispensed with.

How to Prune.

Pruning is done by breaking off half a dozen lower leaves, when plants are fifteen or eighteen inches high. Many good tobacco raisers in the South dispense with pruning. This I don't approve of, for the following reasons: When pruning is neglected, the ground leaves will have to be wormed as regularly as any others; if not, the "tobacco worms" will crawl up to the better leaves and do considerable injury—in fact the ground leaves, if left on, are never worth housing; they don't attain full size, and are so much injured by dirt and firing as to make them valueless. Therefore I say, *prune high*, leaving nothing on but what the grower intends making a good article.

Topping Tobacco.

The next thing in order is topping, which is done by pinching the heart or top off, as soon as there are as many leaves on the plant as the grower wishes. Early topping

on rich ground, can be done at 12 leaves, and all plants not then ready, but ready for topping one week later, at 10 leaves, and those two weeks later than first at 8 leaves. Many good planters prefer 10 leaves as the maximum, thereby making a larger and leafier article.

Time of Cutting.

It is of great importance to have the crop ripe, *very ripe* before cutting; if not, the quality will not be as good; there will also be a deficiency in quantity. It is after the plant has become fully grown, and during the time of *ripening*, that the leaf thickens and becomes heavy. If cut sooner than this, it will not have a good body, nor that oily elastic appearance which is so desirable. When any of the crop is cut earlier than the 10th of September, avoid cutting in the middle of hot days. It will be found almost impossible to wilt large plants sufficiently for handling, without sun-burning, if cut at mid-day during the last of August or first of September. As rains wash the gum off plants, making "the leaf" thin and flimsy, therefore do not cut immediately after rains; allow forty-eight hours to intervene before cutting; generally the leaf will have thickened by this time.

Scaffolding, Curing, &c.

Build temporary scaffolds in fields, by setting forks in the ground to the depth of 18 inches, and five feet above ground; then haul to each scaffold as many sticks as will fill the scaffold. In size they ought to be $\frac{1}{2}$ inch by 1 or $1\frac{1}{2}$ inch, and 4 feet long; these will neither turn when hung, nor bend with weight of plants. Now we are ready for cutting: split the plants through the center of the stalk, beginning at the top, to within five inches of the cutting off place; then lay the plant carefully on the ground, butt towards the sun; if a very large plant it will be best to invert it, that is butt up; fewer leaves will be broken off in this way than laying down plants in any other way. In a few minutes, "if the day is hot," they will require turning, when place the butts towards the sun; then put them in piles, seven to ten plants in each pile. Size will determine the number. Bring the stick from the scaffold, press it obliquely in the ground to the depth of five inches—"perhaps less will hold the stick firm," close to the pile of plants; put the plants on the stick and hang them on the scaffold; pick up another stick, carry it back to another pile, and so on to end of chapter.

I have tried many ways of hanging, and this is the speediest and most convenient of any I have tried. When well cultivated the soil is mellow, and there will be no difficulty in pressing the stick into it to a sufficient distance to hold the sticks perfectly steady.

To cure tobacco a fine color, it will be necessary to crowd closely on the scaffold, so as to exclude the light as much as possible. It will also increase the temperature of the tobacco, which hastens the yellowing. It will be borne in mind that no amount of heat will produce an intermediate or yellow color, without crowding closely. I have experimented with single plants and sticks hung in the barn, and in no instance did the plants yellow, while the crowded tobacco yellowed nicely. Rain injures it very much, therefore never have more scaffold in the field than can be hauled to the barn without being rained upon.

When tobacco is cut and housed in the latter part of September, it will be found necessary to use artificial heat. Furnace stoves or open fires in trenches, are the usual modes. When fire is used for the purpose of yellowing, it will have to be used *moderately*; bring the barn to ninety degrees. This will answer until the leaf is well yellowed, when the heat can be increased twenty degrees. This will cure the leaf perfectly, provided this temperature is continued regularly day and night, in five or six days. Of course when crowded in the barn for the purpose of yellowing, as soon as this color is attained, it will be necessary to separate the sticks to prevent house-burning. Eight inches apart will answer, but a greater distance will be better, especially if the tobacco is large.

For hauling, use a frame seventeen feet long and four feet high, made like a wood-rack. When hauled in this manner, bruising the leaf can be avoided.

When the stem of the leaf is thoroughly cured, it is ready for stripping and tying in hands of from seven to ten leaves, according to size. Where crops are sold to stemmies, the hands can be made double the above size. Hang hands on sticks, and strike or bulk down, the first time of coming in proper case. If bulked during the winter months, do so when the stem of the leaf will break brittle from end to end. If in the spring or summer, when stem will break two-thirds from large end of stem. Always bulk down when the tobacco is coming in case—never going out of case.

Worming and Suckering.

I omitted to mention in the proper place, the necessity of worming and suckering. The suckers make their appearance immediately after "topping." These will have to be kept broken off. I rub them off with the point of finger before they reach one-quarter of an inch in length. When nibbed off completely, it will take more time for the sucker to make a fresh start and a growth of one inch in length, than will be necessary for a sucker which has been left on to make a growth of four or five inches.

Tobacco wormed thoroughly once a week, will make a tolerably sound crop, but once and a half will be better. Worming and breaking suckers is done at the same time of going through tobacco in this wise: begin at top leaves, and break suckers down; then examine for the great pests of a tobacco crop, "the worms;" also examine for the eggs deposited by the tobacco-fly. They are as large as the head of a medium sized pin—perhaps a trifle larger—from yellowish green to deep green in color. It will require careful work to see them, but when the work is done in this manner, very few worms will be overlooked.

Good dry corn land, such as will here produce from 45 to 60 bushels per acre, is well adapted to tobacco, and will produce 800 lbs. to 1,200 lbs. per acre. From two to three acres to the hand is plenty.

Construction of Tobacco Barns.

The barns in general use in Kentucky and Tennessee, are five tiers in height—however, some are only four tier buildings. When four feet sticks are used for hanging plants, "this is the most desirable length." Of course the tier poles will have to be a corresponding distance apart. Always allow an extra foot in width of barn more than the number of tiers of sticks hung, in width or across barn; thus in lean-to or shed to barn, which is intended to contain four tiers in width, make 17 feet wide—barn to contain six tiers in width, 25 feet in width, &c. It is well when barns are not floored with plank, after crop is cured, to cover earth floors with straw five or six inches deep; this will prevent the dampness of the floor moulding stem of leaf.

It can be easily ascertained, the amount of barn room required for any crop. When planted $3\frac{1}{2}$ feet by $3\frac{1}{2}$ feet, there will be 3,535 plants—ten plants to the stick will require 353 sticks, eight inches between sticks. This is as close as tobacco ought be hung. These data will enable those interested to ascertain the quantity of room required for their crops.

JNO. LANDRIGAN.

Albion, Edwards Co., Ill.

A BOY'S EXPERIENCE IN FARMING.

MESSRS. EDITORS—I have for a few years tried my luck in farming. I commenced for myself, when I was 15 years of age, in the year 1860, on six acres of land. In the spring, sowed oats on my field. When the oats came off, I plowed the land, and let it lie until I wanted to sow my winter grain, which was wheat, then harrowing the ground over before sowing the grain. I sowed my wheat, and then spread on my field about 60 loads of yard manure from the cart—then sowed on timothy seed and red-top—the next spring, clover. That summer I had a fine crop of wheat. Last summer I think I had the best piece of grass that grew in the State of Connecticut. From my six acres I cut nearly 22 tons, the best of hay—cut it about the 10th of July, with G. M. Hubbard's patent har-

vester. On the machine I had a pair of horses, weight about 900 lbs. apiece. If any of the New-York boys can beat this, let me hear from them, as I expect to try it again this year. CHAS. E. PADDICK. Meriden, Conn.

OLD vs. NEW ORCHARDS.

MESSRS. EDITORS—As the season for setting trees is at hand, I propose to write a bit of my experience for the benefit of any of the readers of your paper who may be just commencing a business life on a farm. When I purchased my present farm, fifteen years ago, it had on it an old orchard. The trees were natural fruit, but many of them looked quite thrifty. I commenced to trim, scrape, and graft. I paid out about thirty dollars, beside what labor I did myself. The ground was plowed lightly and manured, sown with turnips, and sometimes planted with potatoes, or sowed with corn for fodder. I waited eight years expecting fruit in abundance, but I waited in vain. Some of the grafts grew well for a while, but I soon found more or less of the trees were dying, evidently from the effect of trimming and grafting. Many of the grafts died (trees and all,) after being set a number of years. It is my opinion that I have not had more than fifteen bushels of grafted fruit from all of those trees since the grafts were set. The trees and parts of trees not grafted, produce well, perhaps every second year, but few of the apples are worth much except to feed stock. For this purpose all fruit of the apple kind I think is good, especially for cows. I do not know of anything that they relish better, or that will produce more milk. Of course judgment must be used to regulate the quantity. But I find I am a little off the subject. In summing up my experience, I do not believe in fixing up old apple trees. With me it has proved a failure.

Six years ago last spring I set out one hundred apple trees bought at the nursery. I helped to take them up and secured a good root to the trees, and they were very good trees. I set them on pine plain land, which had been wornout by constant cropping by its previous owner, but since I had occupied it was somewhat improved by manure and clay. The trees were set thirty-three feet apart. Since the trees were set I have manured the land and raised a good crop every year. I have set some trees since, and now have three acres of orchard in one piece, which I treat pretty much alike. The crops usually raised among the trees are carrots, cabbage, corn sometimes, and corn fodder. The same crop is not on the same ground two years in succession. These trees have grown well, and look smooth and thrifty, and others say just right. They are now from ten to seventeen inches in circumference two feet from the ground. A few of the trees bore specimen apples the second year, and have produced more and more each year since. The past year, 1862, the produce of the first one hundred trees set, was one hundred bushels of nice apples. Some kinds, which come late into bearing, have not produced much yet. The Northern Spy and Early Strawberry for instance, are of this class. Some Baldwins did not bear at all the past year; others produced three and four bushels each. But the fun of the thing is, we have all the apples we wish. They keep very well indeed, considering we have from eight to ten in the family and all like fruit. They have rotted but very little, and this is the first winter for twenty years that I have had what fruit I wished to eat.

Now friends of the plow, which pays best, to expend thirty dollars on old trees or twenty on nice young ones? Thus far the land has produced about as much as though no trees were on it; but I think this will not be the case longer. Last spring I set seventy-five sweet apple trees, and hope some time to have plenty of sweet apples to feed to stock. My advice is to set young trees, and when they come into bearing cut away the worthless old ones.

Chicopee, Mass.

M. S. KELLOGG.

[For the Country Gentleman and Cultivator.]

SHEEP HUSBANDRY IN ENGLAND.

Cotswold sheep are bred chiefly on an extensive tract of high land in Gloucestershire, and for miles diverging into Oxfordshire, and some other adjacent points bordering the part strictly denominated the Cotswold Hills. The farms average about 300 acres each, and, as in other parts of England, are mostly rented from the large landed proprietors at a certain price per acre according to quality, payable half yearly, the 29th of Sept., and the 25th of March, the former being the usual time of entering as tenant. The changes are not frequent—in fact the buying and selling of farms in America is of more common occurrence than the removal of occupants there, and as the custom of that country is to pay the outgoing tenant for growing crops and unexhausted manurings as per valuation, when a change does occur it is not attended with the injury to the land and the breaking up of system as is the case in localities where the law cannot enforce reimbursement, or on the other hand recover damages for neglecting to keep every portion of the land planted in accordance with the rotation and course of husbandry agreed on, or that which is customary in the district.

On such a farm, besides cows and young cattle to eat and make manure of the straw from the grain crops, a flock of 200 ewes is kept, and managed so as to sell 200 sheep per annum. These ewes are assorted particularly and examined one by one, and put into lots of about 70, so that their shape and quantity of wool and general appearance shall be as nearly as possible similar. Thus the 200 ewes will make three lots, each put with a ram in separate fields. The rams are purchased for the purpose of suiting the ewes they are mated with, the idea being to keep the progeny as even and as much alike as possible, which is done by having the shortest ram with the longest ewes, the heaviest woolled ram with the lightest coated ewes, and vice versa, and in every point, as near as can be arranged, counteracting defects in this way, and bringing the stock year after year as much of one character as can be done. The flock does thus become pretty much like what the owner considers the best stamp and sort of sheep adapted to his soil and circumstances. The ewes have the rams with them but one month, as it is best to have the lambs come in in that time, for the "yeaning" month is the only time sheep are placed in pens, littered with straw, and then during the day they are driven away to range on their wonted ground. Those having lambs are continually moved off as fast as they get fit, to different parts of the farm, according to convenience.

The month of October is the one generally chosen for the mating, which brings the lambs from the last few days in February to the end of March. Sometimes it may be necessary to bring them home during a snow storm, but as a general rule, at a few days old the lambs are taken away for good with their dams, and in a fortnight are ear-marked, the females on the left ear and the males on the right. At the same time all their tails are cut short, and the males are altered. They are weaned when the hay-making is completed, which is about the 1st of July. They are divided into lots, the sexes separated, and fed on the second growth of rye grass, clover and sainfoin. The ewes are sorted over, the oldest replaced by the yearlings, called "theaves," and as the casualties are made up by the twins, the flock will always bring as great a number to maturity. The breeding ewes are thus all young, as perhaps not more than a dozen, or a score at most, are ever permitted to remain after their turn comes to be drafted. These of course are the best, and are kept in place of the same number of the very worst theaves, and next year leave the flock entirely, so that the "cull ewes" will be annually 80 three year olds, (including the 20 theaves) and 20 four year olds. Some-

times these are sold to go into the rich grazing districts, where many farmers habitually buy and sell instead of breeding; but the best farmers, who force prodigious crops of roots, feed them till fat.

The lambs are put to turnips about the latter end of August or beginning of Sept., when they are designated "tegs," common white turnips with a little hay being their food till about Christmas, when they commence eating the Swedes, which being cut and given with great regularity, force their flesh and wool enormously. The Swedes having a warming tendency, they may be seen on a cool winter's morning lying on their sides stretched out as if basking in summer's sunshine. The wether tegs have the choicest cuts of hay, which is given them in racks, and after being picked over, is removed in a cord by the shepherd for the ewes to finish, or perhaps taken to the homestead for the cattle, as may be the handiest.

Thus the he tegs and the draft ewes are sold annually, the ewes about Jan. or Feb., and the tegs in April, or according to the holding out of the roots. The 100 ewes are handsomely and often ornamenteally shorn, and go to some Fair in the neighborhood, where there are always butchers to buy at a market price, and as the ewes have not become so old as to be coarse about their udders, they will sell for 12½ dollars each, which price the 100 tegs will also make by April. Thus the sale of sheep per year will amount to \$2,500, and as the whole 200 ewes and 100 ewe tegs left on the farm, will produce on an average with those shorn fat, about 10 lbs. of wool each, this will give at 25 cts. per lb., which is a fair price for it one season with another, a total of 5000 lbs., which will come to \$1,250, giving a grand total of \$3,750 from sheep alone.

On such a farm it will generally occur that ten heifer calves will be raised each winter, for they get them from Buckingham or other markets, and by giving them skim milk and teaching them to eat Swedes while quite young, will bring them out at spring fit to care for themselves on any moderate pasture—(some are raised in Wiltshire on *hay tea*.) They are kept round and sold out "coming down calving," at three years old, and if they were judiciously selected as regards breed, they will readily make \$100 each, which, with the sales of hogs, will run the proceeds from live stock to upwards of \$5,000 per year.

The returns from grain sold will probably make an addition of about \$4,000 more, from which has to be paid, rent, taxes, local rates, tithe, &c.

This class of farmers keep a good saddle horse or two, and see some sport in the winter by riding a day or two in the week with the fox hounds; and by breeding or buying likely young horses, and training them to leap as hunters, make more than enough to pay for keep and attendance, and get the recreation into the bargain.

Nothing has been said about the Leicester sheep, Downs and other varieties, for there is only the difference in their management, the change of soil and other variations of locality demand.

In the South-west of England, the Dorset and Somerset sheep have horns, and will, if desired, breed twice per year. The draft ewes from these counties are many of them bought by farmers in the vicinity of London, and produce what are called "house lambs," which are brought into market as a delicacy, as high as \$5 per quarter, at the opening of the New Year.

The Down commands the best price for mutton, and every kind has its advantages for one thing or another in particular parts of the country, so that it is difficult to maintain an argument relative to the superiority of one breed over another. The Leicester may be best adapted for the rich feeding pastures of Leicestershire and Northamptonshire; the Downs for their native hills and Downs. The Spanish Merino is but little known; the Scotch and even the Welch are appreciated for certain peculiarities, but for North America, a cross between the Cotswold and Down might be as good as any, for they have heavy and good wool, and as it grows from their nose to their toes, they can stand cold, rain, snow or mud, rather better than

any other breed, and as exposure does not injure their fleeces as it does the Merinos, there need not be so much anxiety about housing them, and they might be on the land more, which is their proper place.

This is a representation of common flocks which never eat grain or aught but grass, vetches, roots and hay. Some farmers feed with barley, peas and cake, and bring out sheep at a third more per head than here stated, and say it is an outlay paying good interest. J. B.

Planting Orchards and Vineyards.

MESSRS. EDITORS.—The modern plan of setting out an orchard or vineyard, is such a formidable process that many young farmers dare not venture to look it in the face. Now it strikes me that some amelioration of the practice of draining, sub-soiling, trenching and manuring, might obtain, much to the relief of farmers of moderate circumstances.

Now we know that manure placed to any depth will invite the roots down to it in search of food, let the depth be what it may. A writer in the Co. GENT., in the number for Jan. 26th, page 61, over the signature of Quercus, says—"The question is that should roots be near the surface in a warm top soil, or far beneath in a cold sub-soil? Do they do best in a thin rich soil, or where it has been trenched and manured?"

Let facts answer.—1st. In wandering over the elegant grounds of my friend George Dayton, Esq., of Peekskill, I came across a Catawba grapevine. Frost had come, yet the vine was loaded with fruit which had not begun even to turn. My friend observed that he was out of patience with it, and intended to dig it up, which he has since done. It stood in a splendid spot on the south side of bank a wall about four feet high, in the open sun. Knowing he did up everything thoroughly and systematically, I inquired how he planted the vine. He replied that he thought it a fine place, and so he took great pains to trench deep and manure well, and now, said he, just look at it; so I offered him my explanation at once. The roots on the north side ran under the wall and embankment four feet below the surface, and those on the south side had been invited about as deep by the manure trenched in, so the genial heat of the sun failed to reach them on all sides; therefore they never ripened, nor even thought of it.

2d. I once gave a Catawba grapevine to an old maid. She planted it about twenty feet from the south-west corner of her house, in her own way. The sub-soil had been scraped off the cellar bottom and the bottom of a bank of soft old rock on the side-hill, and of course it was nearly impervious hard-pan. Over this had been spread a good soil some six inches deep or thereabouts, merely to make grass grow for a greensward. There stands the vine on a rude arbor and up an old tree. It was never trimmed, but often watered with soap-suds. For many years it has borne large crops of beautiful ripe grapes, and no "Thomery" about its culture.

I will only add that I have more facts on hand, but I will conclude with quoting the words of Mr. H. T. Brooks, President of the Western Fruit Grower's Association. At their last convention he closed the discussion on grape culture in these words—"I would plant on a dry side-hill, cultivate well, would not trench deep, nor use animal manure."

A few remarks on apple tree setting and I shall have done. A writer in the Co. GENT. for Jan. 26th, gives us his experience on apple tree culture, saying he "had traced roots four feet deep, but on shallow soil grew the most thrifty and healthy apple trees."

In conclusion I merely wish to add, that I know an orchard of apple trees planted on a field of ledge rock cropping out here and there all over it. The trees are thrifty and bear enormous crops of superior fruit. So near the surface were the roots, that I saw one seven or eight feet long bare of soil.

My simple opinion is, that the central roots of trees are

sent down to support them from winds, and perhaps to draw up water, while the lateral ones ramify the surface in all directions in search of food; and that if food be placed far down, the roots will be invited too deep to realize the heat of the sun, and thus lose its beneficial influence. JAS. FOUNTAIN. Jefferson Valley, Feb., 1863.

CURE FOR BONE SPAVIN.

EDS. CO. GENT.—In your paper of Feb. 12, p. 108, I noticed "A Cure for Bone Spavin." But as it contained many articles not easily within the reach of most farmers, it occurs to me to communicate a much more simple remedy, which has also proved efficacious in cases of ring-bone, (which belongs to the same class of diseases.)

Bathe the affected part three times a day with *sour buttermilk*, well rubbed in. The bony excrecence will become softened by the action of the lactic acid, and gradually absorbed.

This treatment usually takes from two to three weeks, but may be longer in an old case.

When horses are treated under my own direction, I am in the habit of prescribing the homœopathic preparation of Iodine, usually the third decimal dilution, a drop morning and evening, on a bit of bread or lump of sugar, which most horses will readily take.

This greatly facilitates the process of absorption, and I would recommend it in all cases where homœopathic remedies can be obtained.

Iodine must in no case be used in condensed form. One drop of tincture to one hundred drops of alcohol, thoroughly combined by shaking, is as strong as I would venture upon. This to be used daily for a week, then omitted for the same length of time—then repeated for one week. All this may appear very absurd, but I have frequently seen these simple means successful in the treatment of these obstinate diseases.

All humane men will be glad to learn that in the reformed system of medicine, what are usually styled *horse doses*, are entirely abandoned, both in the treatment of animals and the human kind, the great discovery having been made that a horse requires no larger dose than a child of the same age, provided the right remedy is selected.

Mansfield, Tioga Co., Pa., Feb., 1863.

JOS. P. MORRIS.

P. S.—Kerosene oil will cure chilblains. It also cures rheumatic pains and stiffness of the joints in the human subject.

Coal Tar for Fence Posts.

MESSRS. TUCKER & SON—I would say to J. P. of Pittsburgh, Pa., in regard to coal tar preserving fence posts, that seven years last spring, I built one mile of board fence. My posts were of white oak and black oak timber. I had them split out. I then had a carpenter straighten one side of the post before putting on the tar. I have a large boiler which holds over a barrel of tar. I then put in the tar and bring it to a boil. I then put the post into the tar, so that the tar will come about six inches above the ground after the post is set. I leave the post about one minute in the tar. I examined my posts last fall, and they appeared to be as sound as the day I set them.

Eight years ago last spring, I built 20 rods, with sawed posts. They were all of white oak timber. I did not tar them, and there is one-half of them rotted off now. I do not set a post now without tarring it.

Marshall, Mich.

S. P. WORMLEY.

A Good and Healthful Substitute for Coffee.

Rye scalped, and carrots chopped and browned in the stove oven, in the proportion of two of the former to one of the latter, make a rich looking and better tasted coffee than the rascally compounds put up and sold under the name of coffee. It is said a few kernels good coffee roasted with it, will impart a perfect coffee aroma, and may be separated and used for successive roastings. R. W. M. Durham, Conn.

THE KELSEY HARROW.

MESSRS. EDITORS—What I claim for this harrow, (fig. 1.) is that it is perfect as a harrow—that is to say, that it harrows all the ground exactly alike. It is easily handled by

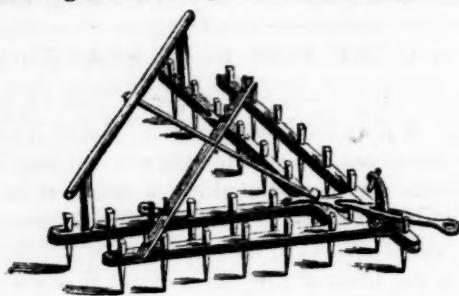


FIG. 1.

man or boy, the connection with the team being such as to give the driver perfect command of it.

As a "Crab harrow," fig. 2, for the purpose of harrowing corn the first time, it has no equal. The "Crab harrow" is produced by merely hooking a bail into the

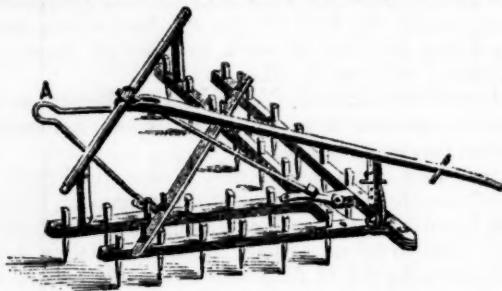


FIG. 2.

eyes where the scraper is attached, and hitching the team to the loop A., and removing the three centre teeth, and run it backwards straddle of a row of corn, with the driver walking on the side of the handle that is attached for the purpose, and he has perfect command of the two teeth that are run nearest the row.

As a harrow and scraper combined, fig. 3, for the purpose of smoothing down the little inequalities in the soil,

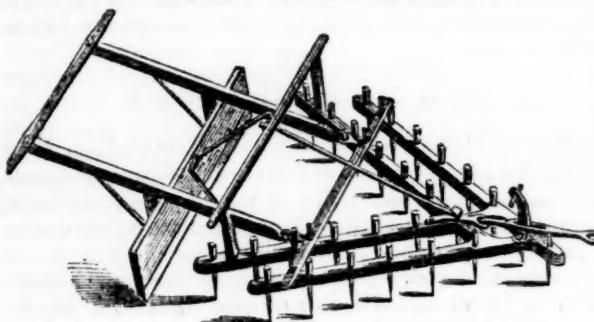


FIG. 3.

or in other words to make water run everywhere and lay nowhere, and rendering the operation of the mowing machine a more easy, pleasant and economical performance, I think it difficult to conceive anything more perfect.

JNO. KELSEY.

Prospect Farm, near Yardleyville, Bucks Co., Pa., Feb., 1863.

SUPPORTS FOR CLIMBERS.

A correspondent desires us to furnish him some instructions on the subject of climbing ornamentals, and the best way to provide supports for them.

The plants most suitable for this purpose are pretty well known; we may, however, name the Honeysuckles, the Prairie Roses, the Virginia Creeper, Trumpet Creeper, Bittersweet, (*Celastrus*), Aristolochia, the hardiest species

of Clematis, Periploca, Wistaria, &c. There are several annual climbers, such as the Morning Glory, Cypress vine, Loasa, &c.

Supports for climbers are of various kinds. Some make elaborate wooden structures, variously ornamented with carved work, forgetting that all the ornaments should be derived from the plants themselves. We prefer a simple and even rustic support. The simplest is shown in fig. 1, at A, and consists merely of a tapering scantling set firm-

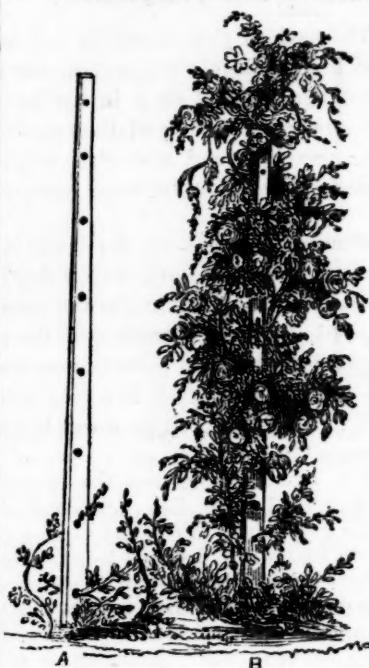


FIG. 1.

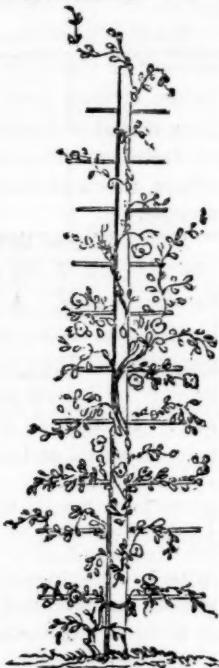


FIG. 2.

ly in the ground, and bored with holes at intervals from bottom to top. It is adapted to such strong and luxuriant growers as the Prairie roses, the stems being drawn through the holes in alternate directions as they ascend in growth. In the course of two or three years, if the ground has been kept well cultivated, they will present

the appearance of the fine columns of verdure and flowers shown at B. If different colored varieties are employed, blooming at the same time, such for example as the Baltimore Belle and Prairie Queen, the column will present a beautiful variegated appearance. Plants of a less rapid and luxuriant growth may be supported by the addition of the horizontal sticks shown in fig. 2. These supports should be made of durable wood, painted brown, or some neutral color, and it is the plants alone that are to be conspicuous. If red cedar or locust is used for the part below ground, they will last many years. It sometimes becomes desirable when the climbers are tender to lay them down for a covering in winter; this



FIG. 3.

may be easily effected by means of the contrivance exhibited in fig. 3; the upper pin b being withdrawn, the whole is prostrated, as shown by fig. 4.



FIG. 4.

HOG-PEN AND CORN-HOUSE.

I wish to ask some questions about building a hog-pen—one suitable for a small farmer, who keeps two cows, and owns about twenty-five acres of land. I have been farming my land in partnership with a friend who owns a much larger farm, and has all the necessary buildings; but now, having got a house built on my own premises, I find I want to keep a pig or two, near by, to consume the slops and refuse fruit and vegetables. It seems to me that after a hen-house (which I have got) I need next a pig-pen, and may as well build one suitable to my farm, when I come to work it alone if I should conclude to do so.

How would this size and arrangement accommodate me? The door faces the east. The feeding pen is entered by a door under the west window, on the south side. The manure window is on the west end. I want some kind of arrangement for cooking food—perhaps a kettle set in an arch of brick or stone. The garret will furnish some store room.(1.)

I should wish to keep my corn in a crib out of the reach of rats or mice. How high ought the posts to be, and would the wall on which it stands need to rise over ten inches above the surface of the ground?(2.)

WHITE.

1. The plan given by our correspondent appears to be a good one, when the animals are all the same size, and is intended we suppose for the time when he shall have considerable number. A more extensive and perfect piggery is figured in the annexed plan and view.

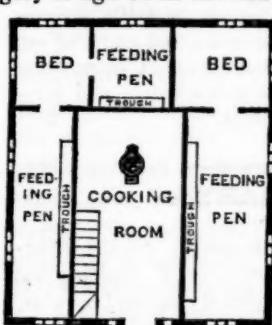


FIG. 2—PLAN OF PIGGERY. cooking-room chimney. Great pains are taken to keep all the pens dry, clean, and suitably littered.

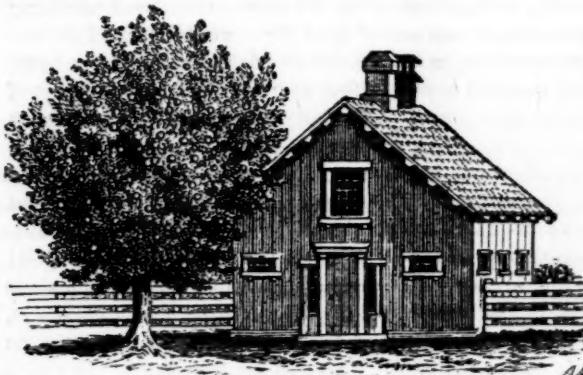


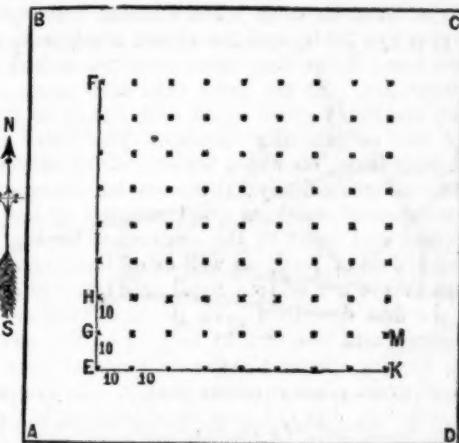
FIG. 3—END VIEW OF PIGGERY.

2. Where a corn-house stands on round, smooth timber pillars to prevent the access of rats, these pillars should be at least two feet high, and be surmounted by inverted tin pans without wire rims, as the rats sometimes seize hold of these rims to help themselves upwards. A neater support consists of square brick pillars, the upper half with square casings of sheet tin.

PLANTING DWARF TREES.

[We have been favored by a young correspondent with the following description of the best mode we have met with, for setting out a dwarf pear orchard. He has set out many thousand trees in this way, and we can bear witness of the mathematical accuracy of the rows in his own orchard. The rapidity of this mode of planting strongly recommends it—three men planting four hundred trees on an average per day, in the best manner.]

MESSRS. EDITORS—A rapid and accurate method of planting dwarf trees, so that an observer, looking in any direction from the centre of the orchard, may find the trees exactly in line with each other, would perhaps be of value to some of your readers. The superior neatness of such a style of planting is its sufficient recommendation; to say nothing of the consequent facility of cultivation east and west, as well as north and south. As "the books" seem to have left orchardists to engineer this matter for themselves, I offer the following plan, which has been found to work well in my own experience.



Suppose A. B. C. D. to represent a field which has been enriched and properly prepared by deep plowing and repeated dragging, and is to be planted with dwarf pear trees, 10 feet apart. Provide yourself with a line and a light pole 20 feet long, notched in the middle. Plant a tree at the point E., equidistant from the fences A. B. and A. D.—stretch your line from E. to F. parallel to the fence A. B. Having taken your place on the east side of the line, while your attendant stands ready with his spade on the west side, lay your pole along the line and about 2 inches east of it, placing the south end at the point E. The notch in the middle will show your assistant where to make the hole, and a little care will enable him to dig under the line (so far as may be necessary,) without disturbing it. When the hole is large enough, set the tree at the point G., against the west side of the line and opposite the notch.

Plant a tree at H., at the end of the pole in a similar manner. Then carefully notice the exact spot on the ground, to which the north end of the pole corresponds. Take up the pole and shift it 20 feet northward, placing the hinder end of it precisely where the front end was before. You thus have the places determined for planting two more trees.

When the row E. F. is finished, plant the row E. K. in a similar way, being careful to place all the trees on the south side of the line, for convenience of shifting it.

Having reached the point K., move your line 10 feet north, placing the west end of it against the north side of the tree at G. Then measure eastward from the tree at G., and plant the row G. M., placing the trees as before on the south side of the line.

Each row is thus to be planted by measurements from the base line E. F. With care in measuring, the trees will be found to row in any direction. The time occupied in shifting the pole along is much less than that which is consumed by the ordinary method of ranging from stakes.

M.

[For the Country Gentleman and Cultivator.]

LETTER FROM PRUSSIA.

Heavy Crops on Poor Soil---Interesting Investigations by Dr. Stockhardt.

Seven miles from the Prussian fortress Minden, on the left bank of the Bastan creek, lies a tract of land on which for centuries, a singular method of farming has been practised with great success. The tract comprises about 3,000 acres of plowed land, and is divided into many small farms of from 15 to 70 acres each. The soil is a loamy sand, very deep, with sandy sub-soil, and the land is assessed in the third class, (there being eight classes in all.) The soil is rather of inferior quality. Wheat, barley, beans and peas, cannot be raised on it at all; neither would beets or ruta bagas pay for cultivation; white clover would not grow, and red clover would be a very uncertain crop; even oats do not succeed, and are sown but to a small extent. Hardly anything is raised but rye, potatoes, turnips, and a little buckwheat. Of these rye is the main crop. The farmers there speak of hundred-year rye fields, and the oldest inhabitants assure us that on many fields they have seen rye raised every year of their life. At the same time their crops of rye are almost invariably good, much better than on the better soil of the neighboring districts. The latter consist of a rich deep loam, on which barley, wheat, clover, rye, beets, etc., all grow finely; there are large farms there, with abundance of stock, a good rotation of crops has been adopted, and many of the owners are buying every year a great deal of feed, as well as of fertilizers. Still their crops of rye are seldom equal, and often inferior, to those of the first described poor district; they are principally injured and lessened by lodging of the straw, so that while looking splendid in the early part of the season, the yield of grain often is rather scanty. In the present year, for instance, the rye crop on those rich lands does not average more than 16 bushels per acre, while on the first described poorer district, (which I will call Hille, after the name of the principal village,) the yield has been 27 to 29 bushels; (American measure and American acre.) The potato crop, also, has been excellent always in Hille, even the worst years of the disease, and large quantities have been shipped from there annually. The straw of the rye in Hille is rather shorter than that of the neighboring districts, but it hardly ever lodges, and the grain is always heavy and of very good quality. Now it is singular that the farmers of Hille never buy either feed or fertilizers; they have no marl-beds; their meadows are of poor quality, growing most inferior grasses, and requiring manuring themselves, and their lands are situated on high dry ground, never receiving the benefit of an inundation. It seems very strange, therefore, that in so poor a district farmers have been enabled to sell for centuries, the strength of their soil, without disastrous results.

The secret lies altogether in the treatment of the manure. Every field is manured every other year. But when the manure was taken to the field directly from the stables, or when barn-yard manure was used in its natural state, which is the common practice throughout the country, very inferior crops have always been the result. By following this common practice, the farmers of Hille would soon see their fields completely exhausted; therefore they convert all their manure into compost. To obtain material for the compost heap, they skim every sod off that can be found on road-sides, ditches, &c., and carefully collect all offals of house and field. But as there is no waste land, this source can yield but a small portion of the required material. The main part they take from the fields themselves. The fields are plowed in lands slightly ridged. In plowing the stubble directly after harvest, the farmer will leave a strip on each land unplowed; this strip is dug out a foot deep and the dirt hauled to the yard. Whenever manure is thrown out of the stable, thick layers of dirt are placed between the layers of manure; the whole heap is left to ferment for months; two

weeks before the time of drawing the manure to the field, the whole compost heap is forked over. This method certainly requires a great deal of labor, but it pays for all outlay. By its aid the crops are at least double of what otherwise could be grown on such soil. Nor is it difficult to find an explanation for such results of compost making. We know that the soil contains a large store of the substances required for the growth of plants, in an insoluble state. The formation of gases and the heat created by the fermentation of the compost-heap, must be the means to transform these insoluble substances and make them available. According to an analysis made lately by Dr. Stockhardt, the soil of a certain field contained per acre, in a depth of 12 inches, 9,000 lbs. (German pounds, of which 100 are equal to 107 American lbs.) of phosphoric acid, 75,000 of alkalies, etc. As 27 bushels of rye contain only 12 $\frac{1}{2}$ lbs. of phosphoric acid, and 8 $\frac{1}{2}$ lbs. of alkalies, the soil analyzed by Stockhardt contains phosphoric acid sufficient for 706 heavy crops of rye, and alkalies enough for 8,895 crops. Such a soil would therefore be capable of sustaining for a long time an exhausting system of cropping, if means can be found to make all its insoluble ingredients available. Dr. Stockhardt has lately made some interesting experiments to ascertain the time necessary for making insoluble ingredients of the soil soluble. He took a sample of rich soil which contained per acre 870 lbs. of alkalies, 90 lbs. of phosphoric acid, 360 lbs. of silica, altogether 2,550 lbs. of mineral substances, in a soluble state. All these soluble substances were completely washed out by water, and the sample of soil then exposed to the alternate action of air and water. After five months, 405 lbs. of alkalies, 45 lbs. of phosphoric acid, 300 lbs. of silica, altogether 2,640 lbs. of mineral substances (per acre, and 12 inches deep) had again become soluble.

The favorable effects of compost manuring are proved by experience in innumerable cases. If practiced in such extreme manner as in the district of Hille, it must finally lead to an exhaustion of the soil; but many of our best farmers think that the same amount of money expended for compost making, gives much better and surer returns than when invested for guano. L.

Munster, Prussia, December, 1862.

• • •
WASH FOR BARNS.

There is no cheap substitute for oil paint. All the different kinds of white-washing are incapable of shutting out moisture. The sides of buildings especially exposed to rains, will lose a portion of any kind of wash by the combined action of frost and moisture. Oil paint obviates this difficulty.

There are many different kinds of wash recommended; but with a single exception we have never found anything better than a mixture of good lime with water. This exception we have made a thorough trial with. A rough barn, which received a coating four years ago, now retains most of it, although a considerable portion is scaled off on the most exposed side. This wash is made substantially as follows: One peck of fine beach sand, three pecks of water lime, and four quarts of salt. These proportions might vary without detriment—there should be as much sand as can be conveniently applied with a brush. A farm laborer applied this mixture early last summer to two rough barns, one about 30 by 55 feet, the other 20 by 30, in three and a half days, consuming two bushels of water lime which was nearly the whole cost of material. This coating, now nearly one year's standing, appears to be as good as the day it was put on. It will be perceived that the expense is only about one-tenth the cost of a coat of paint.

• • •
We learn that R. AITCHISON ALEXANDER, Esq., whose Short-Horn Herd is probably the largest and certainly one of the best in the country, proposes to have a large sale of Improved Stock in June next, at his residence, Spring Station, Woodford Co., Ky.

THE CULTURE OF FLAX.

MESSRS. EDITORS—I have been tempted for a month or two past to call your attention to the subject of flax culture, which seems to me at this time to be of special importance.

The quotations to-day, of Calcutta Linseed, are \$3.97 to \$4 per bushel of 52 lbs., which would bring American flaxseed at about \$3.30 per bushel of 56 lbs., in the usual proportion of prices. Flax is quoted at 25 to 30 cents per lb., by the various holders of that grown in this county.

It would seem to me to be most desirable to stimulate the production here to the utmost limit, both for the profit of the producer and the effect on exchange.

I notice that the various grades of wheat are quoted at \$1.39 to \$1.95 per bushel, and from all reports I have seen, it is fair to count the crop of flaxseed as about two-thirds that of wheat per acre on lands suited to it. Say ten bushels flaxseed to fifteen bushels wheat, would give, at \$1.65 for wheat, \$24.85, and for flaxseed at \$3.30, \$83. A balance in favor of flaxseed of \$8.15 per acre, besides the difference between the value of the flax-straw and the wheat-straw, which is more than enough to cover all the extra expense of seed, cultivation, and securing the crop. Where there are good facilities for dressing the lint, an average crop at present prices, say 250 lbs. per acre, would add largely to the profit.

I hope that either yourselves or some of your correspondents, will furnish your columns with a series of articles on the subject, with a view to disseminate the fullest information in regard to the culture of flax, the proper soils for its growth, and the peculiar treatment required upon the different soils upon which it can be grown.

It seems to me the truest kind of patriotism in the present hour of our country's trial, to take unsparing pains to develop every material resource possible, and being from my occupation somewhat conversant with the use of this product, I have ventured to call attention to it in this manner. A. E. POWERS. *Lansingburgh, N. Y.*

HEMP CULTURE.

MESSRS. LUTHER TUCKER AND SON—I observe in your number of Feb. 12, an article from J. C. A., desiring information in regard to hemp raising. As I have been cultivating this crop for 12 or 13 successive years, I will give my experience on the subject. The best soil is a black rich mould, underlying which should be a tough yellow clay, such as you generally find in our best soils in Kentucky and the Western States. The ground should be plowed in March, then rebreak in the first days of May or just before sowing time, and have the land as free from clods as possible. Now, say from the first to the tenth of May, you may commence sowing, putting on strong land about one and a quarter bushels of clean seed broadcast. Following the sower, you will harrow in, being particular that your harrow shall run crosswise the last plowing, thus covering the seed to a sufficient depth. After harrowing both ways, you will roll carefully, and the work of sowing is completed.

When the leaves in the month of August begin to turn yellow, and a dust peculiar to hemp begins to rise, you will cut as near the ground as possible with the Kentucky hemp knife. Then after 2 or 3 days curing, tie up in proper sized bundles and stack immediately after the binders. It should remain in the stacks until the first or second week in November, when the spreading, preparatory to watering, should begin.

It will, in usual seasons, require from 2½ to 4 months time before the process of breaking can commence, which is best done with the Missouri and Kentucky hemp brake. The best hands, with properly watered hemp, will be able to break and clean ready for market, from 100 to 250 lbs. per day. For the convenience of shipping or hauling, it

is best to bale in quantities containing about 150 or 200 lbs. to the bale.

The seed can best be raised as you would cultivate Indian corn, by plowing, being careful to pull out the non-bearing stalks, topping the seed stalks, which will cause it to branch and to bear heavily.

Our best western soils will produce from 600 to 1,100 pounds per acre, which, at the present prices, you will perceive will remunerate the farmer handsomely—perhaps better than most other crops, particularly when we remember that hemp is very slightly injurious to the soil, as it is frequently cultivated successfully on the same ground for 8 or 10 successive years.

A vast source of profit will be derived by our farmers who will cultivate this crop, as from the present scarcity of cotton, it will doubtless be used to a large extent for clothing as well as for the many purposes for which it has entered into competition as one of the great staples of our country.

ISAAC P. SHELBY.

Ruemon, Fayette Co., Ky.

SPENT TAN AS FUEL AND MANURE.

Piles of this refuse may be had at the tanneries, which, by the adjacent farmer, may be turned to good account. I have done it myself, and perhaps others may find my experience useful to them,—as an absorbent in my cow stables, bedding for the cows, and as a divider, and eventually a manure in the soil. I obtain it thus: Adjoining my stable, in the rear of my cows, I erected a rough board shed of size sufficient to contain a winter stock of bedding—100 loads for 40 cows, or one load per day. The roof, about seven feet high at the eaves, is battened with slats, and is rather flat.

Whenever the team may be spared an hour in summer it is made to haul a load of tan, which is thrown on top of this shed, and spread out as it is thrown from the wagon. The sun and wind soon dries out most of the water, and by moving the slabs it falls down into the shed, the most excellent material for bedding cows and absorbing the fluids. Thus the shed should be filled ready for winter use. If thus dried out it will not freeze, and may be shoveled directly under the cows. In the morning before milking, all wet portions are drawn back by the hoe, and mixed with the offal. When the cows are turned out for an airing the cart passes through the stable, receiving the whole, and conveys it to the field. I thus get two loads per day of what I call the very best manure. At any rate I get all that comes from the cows, in a mixed and easily divisible state. The first dragging prepares it for thorough incorporation with the soil. The bulk, aside from the fluid absorbed, is probably of no manurial value till it rots, but until that time, it is an excellent divider for heavy soils.

In plowing and cultivating I have often noticed the single pieces of this bark covered with a white mold. Whether this indicates that moisture is retained, and heat generated sufficient to be of any value to a crop, I leave to the scientific to determine. I only know my crops are good where I use it. As to any loss in thus exposing the manure to the air, I can only say I am not aware of any loss; I have never seen or heard of any manurial substance escaping from my fields on to my neighbors', and have not observed that their crops indicated that such was the case.

As fuel I have used this spent tan by keeping a load or two in the cellar, so exposed to the heat of the furnace that it gradually dries out. When dry it burns well in connection with coal in limited quantities, and also with wood in a large old fashioned box-stove. As the cost is little, I consider it a good economy to always have a pile on hand drying out. The ashes will fully pay the cost of hauling, if used upon the field. Those not using furnaces, which heat up the cellar like mine, might dry the tan in the summer, and store under cover as it dries out. A shed with open sides, admitting the sun and wind, would be very proper for the purpose.

S. W. HALL.

Elmira, N. Y.

FARMING HINTS FOR APRIL.

Fences.—One of the earliest tasks that can claim the farmer's attention is repairing fences. Systematic managers, whose farms are divided by common rail structures, after having determined about how long they will continue, say six years, divide their whole farm into six parts, and repair a sixth each year—this keeps all in good order without further trouble, and without having too much to attend to one season, and but little another. Board fences should be annually examined throughout their whole length, and loose boards nailed tight. New board fences should never be battened on the face or joints over the posts, as the practice tends to cause decay; but in the course of 15 or 20 years, when the ends begin to rot and become loosened, battens will secure and make them strong for several years longer. If farmers are able to replace their old worm fences with post and rail, board, or stone fences, they should begin on one side and construct a certain amount each year, keeping a register of the same. Then, in future years, when repairs are needed, they can go through in the same way and in the same number of years.

The importance of good fences is well understood by those who have observed the difference between crops safe from all intruders, and those occasionally trodden down and ruined; between moving on with the work without interruption, and the frequent annoyance of stopping important operations, to run after intruding cattle, colts and pigs.

Meadows.—As soon as these are dry enough to bear feet without injury to the turf, they should be carefully picked of all loose and projecting stones, which might injure a mowing machine, and then well rolled so as to make the surface as smooth and perfect as possible. Stumps should be dug or pulled out, accidental brush or other rubbish removed, and small hillocks levelled down. The farmer who has seen a mowing machine broken, at a cost of five dollars, and a delay of a day, by a stone that might have been removed in five minutes, will appreciate the importance, comfort, and economy of a smooth surface. There is some satisfaction in the reflection that new farm machinery is going to *compel* the adoption of a smoother and more perfect kind of farming.

Much is lost by the imperfect thin, and uneven seeding of meadows. Bare spots and thin grass, amounting, as they very often do, to one-fourth of the whole surface, would make a total loss of five acres in every twenty-acre meadow. Sometimes the loss amounts to much more. The importance of thick and even seeding is not sufficiently appreciated. Thin or bare patches in existing meadows may be covered with grass by running over the meadow with a fine-tooth harrow the first day the surface is dry, then sowing a mixture of clover and timothy, and rolling the seed in. If the meadow has been top-dressed with fine manure in autumn or winter, the harrowing will mix it with the surface, and assist the germination of the seed, as well as its subsequent vigorous growth.

Meadows which were top-dressed with coarse manure in autumn or winter, which was more or less spread in lumps, should be harrowed as early as possible, so as to break those lumps and spread the whole uniformly. Cattle droppings, on meadows or pastures, should be finely beaten to pieces and well scattered over the surface, as soon as the frost will admit, and before the frost has all disappeared from the soil. It is scarcely necessary to

mention that no good farmer ever allows either his meadows or pastures to be touched by a hoof early in spring while the ground is soft.

Teams.—Every good manager has already taken care to have his teams in excellent order for the heavy work of spring—but as they have not been much accustomed to hard and steady work, it would be advisable to plow only half a day at a time with them at first until they become well accustomed to it, using them the other half-days for job work, light teaming, &c. A little care in this respect will often prevent sore shoulders and reduced condition. The harness should be examined frequently to see that it fits well and to prevent chafing. It will be observed that when horses are plowing, the traces draw downward, and when attached to a wagon, horizontally; the back straps should therefore be lengthened a little when they are removed from the wagon to the plow.

Plowing.—Light or gravelly soils which quickly become dry may be plowed at almost any time; but rich loams should be taken at precisely the right period. If plowed too early while yet wet, they may become poached and injured for the season. If left too late, the spring rains may have settled back what the frosts of winter have loosened. Plowing *well* saves much labor in subsequent tillage. Narrow furrow slices (except with sward) pulverize the soil more perfectly, and leave a beautiful mellow surface. Furrows seven or eight inches deep, and only six inches wide are easy for the team, and leave the land in very handsome condition.

Manure.—This may be applied with advantage to spring crops, if it is in such condition as to be pulverized finely. After spreading, it should always be thoroughly harrowed, and broken and intermixed with the top soil before plowing under. Coarse manure should be used in compost heaps. If very strawy, throw it up into heaps in the yard for remaining during the summer; if less strawy, draw it out to the fields where it is to be applied, and make compost heaps by thin alternating layers of turf or loam and manure.

Carrots.—Failure often results with this crop by being planted too late—the seeds miss, the sun burns the plants. Get them in as early as possible, or as soon as the ground can be made thoroughly mellow. It does not pay to plant carrots on foul or weedy ground. The labor of hoeing will be too great, but if the ground is clean, rich and mellow, carrots may be made eminently profitable. Farmers often think it necessary to turn their animals on early grass, thus injuring the turf; but a supply of carrots in spring would give them all the advantages of early green food, and none of its drawbacks.

Barley and Oats.—Sow these as early as the seed can be put in, on well prepared land—we have known a delay of two weeks to lessen the crop equal to its entire nett profit.

Potatoes should also be planted early for the great mass of experience is in favor of early planting to prevent rot.

Calves.—The great secret of success in raising calves, after keeping them clean and comfortable, is very regular and uniform feeding, combined with nutritious food, and avoiding all sudden changes in their food. On the whole, it is best to wean them very early, as they will then never suck the cow again, nor themselves. Their food may at first be new milk, then warm skimmed milk, then skimmed milk with meal intermixed, thus passing from new

milk to common food with meal, and being especially careful that all these changes should be very gradual, and almost imperceptible.

Wheat Crops.—Red root and cockle should be pulled early, and not a vestige of either left.

Rainy days.—Clear out all rubbish from cellars, and keep them clean and well purified. Examine and repair tools, and have them all in perfect order for the busy season now about to commence. Grease waggons, oil harness, brush up stables, examine and render perfectly clean all seed for sowing and planting. Prepare account books, and keep an accurate account with every field.

Orchards and Shade Trees.—The enterprising farmer should not forget these. The time for planting may vary considerably with circumstances—if they have been dug up early before the buds have swollen, and have been well heeled in, they may be set out safely, even after the leaves on standing trees have begun to appear. The great point is to take up the roots with them; they are commonly nearly all left behind: stems and tops are not of much value without roots. If this point has been carefully attended to, and the roots have been well spread out in every direction when set, and placed compactly in fine earth, they cannot fail to grow; there is no use in losing one in a thousand. After that, the great requisite is to keep the surface mellow and well cultivated.

[For the Country Gentleman and Cultivator.]

REPAIRING SHINGLED ROOFS.

MESSRS. EDITORS—The accompanying drawing represents a tool called a "Rougher," used by slaters for cutting the nails found when removing broken slates, in re-



pairing slate-roofs. It is found to be equally useful for cutting the nails, when removing decayed or injured shingles, in repairing shingle-roofs. The figure represents the upper side of the cutting-bit, *blade*, and *stock*, with a *side-view* of the *rise* and *handle*. The bit and blade are of steel; the stock, rise, and handle, of iron. The bit is $1\frac{1}{4}$ inches long, $2\frac{1}{2}$ inches broad across the *wings*, and one-eighth of an inch thick; the blade is 18 inches long from the bit to the stock, (shown by dotted line,) where it is $1\frac{1}{2}$ inches wide, and three-sixteenths of an inch thick, tapering in width and thickness to the bit, where it is seven-eighths of an inch wide—the thickness that of the bit. The blade is of a rounding form on the upper side, its two edges being thinner than the middle, in order that in using, it may be moved widthwise of the shingles with less friction. The scallops of the bit are bevelled on the upper side. The bit is sufficiently hard to cut iron; the blade of spring-temper. The *stock* is five inches long from the dotted line to the rise, $1\frac{1}{4}$ inches wide in the widest part, and $2\frac{1}{2}$ inches of its length next to the rise is three-fourths of an inch thick, the other $2\frac{1}{2}$ inches tapering in thickness to match the blade. It is requisite that the stock should be thus heavy, in order to have the advantage of momentum, or blow given, in cutting the nails, and to save using the hammer against the rise for that purpose. The rise is $1\frac{1}{4}$ inches in length or *height*, 1 inch wide, three-fourths of an inch thick, and the corners taken off. The *handle* is $4\frac{1}{2}$ inches long, and seven-eighths of an inch in diameter.

Now as to repairing a leaky roof: the best time is in damp weather, so that the shingles may lie smooth. In order to find the leak, use a dirk-pointed jack-knife; place the point betwixt the edges of two shingles, close up to the butt of the shingle in the next course above, and ascer-

tain whether the shingles beneath are shakey or decayed, for if so, the point of the knife will pass easily through them. Then, to remove the shingle, thrust the *rougher* up under it, so as to cut the nails, when the shingle can be drawn out by the hand, or (what is convenient for that purpose,) "plier tongs," the handles 9 inches long, with knobs on the ends, the jaws 3 inches long, and three-fourths of an inch wide, and the ends of a wedge form. When thus repairing, the last shingle put in will have to be nailed on the outside, which may be done with a small lath nail—simply to prevent the shingle from slipping down. In this way, with the rougher, (which in peace times, in this locality, would cost about \$1.50,) a roof can be repaired in a workmanlike manner. The shingles will lie as true in course, and as smooth, as when newly shingled.

I would remark that shingling is not a difficult thing to do. It does not require much practice, but rather good judgment, so as to know how the shingles should be laid. Any person that has sufficient mechanical skill to make a hen-coop, pig-pen, a piece of post and rail, or post and board fence, in a workmanlike manner, can learn to shingle in one hour, if he will only try. The best way to proceed, is to lay but one course of shingles at a time, and to be as particular to break joints with the second course of shingles beneath, as with the first. Otherwise, should the shingle beneath split to correspond with the matched edges above, (which often occurs by shrinking,) the water will pass down first between the matched edges above the split, then through the split, then between the matched edges beneath the split to the roof-boards, which would be a leak. I think the better way for a person having use for a rougher, and wishing one made, would be to make a pattern for the blacksmith to work by. It would be better to make it of three pieces of wood, nailed or dove-tailed and glued together at the corners.

Bethlehem, N. Y., March, 1863.

AMOS FISH.

[For the Country Gentleman and Cultivator.]

WASH FOR BUILDINGS.

MESSRS. EDITORS—You have given us in the COUNTRY GENTLEMAN of March 5th, a recipe for a wash for buildings, &c. The following preparation has given me and my neighbors perfect satisfaction:

Take a clean barrel that will hold water; put into it half a bushel of quick lime, and slack it by pouring over it boiling water sufficient to cover it four or five inches deep, and stirring it until it is slaked.

Dissolve in water and add two pounds of sulphate of zinc, (white vitriol,) and one pound of common salt, which will cause the wash to harden on the woodwork in a few days; add sufficient water to bring it to the consistency of thick whitewash.

To make the above wash of a pleasant cream color, add three pounds of yellow ochre.

For fawn color, add four pounds umber, one pound Indian red, and one pound lamp black.

For grey or stone color, add four pounds raw umber and two pounds lamp black.

The following is the formula for the whitewash used for the minor buildings connected with the President's residence at Washington, D. C., both externally and internally:

Slack six pounds of lime in hot water, covered from the air. Pass it through a sieve in a liquid state. Add one-quarter of a pound of whiting or the same quantity of pulverized burnt alum, one pound of white sugar, three pints of rice flour made into a paste, and one pound of glue, (light colored.) Add five gallons of boiling water to the whole mixture. Apply it warm to the outside of buildings, and cold on the inside. One pint will cover a square yard of outside work. SHAWMUT. Brookline, Mass.

The next exhibition of the Provincial Agricultural Society of Canada West, is to be held at the city of Kingston, on the 22d, 23d, 24th, and 25th days of September, 1863.

BUCKTHORN HEDGES.

Will any one who understands the Buckthorn hedge, inform me through THE CULTIVATOR, how to propagate and cultivate the Buckthorn for a hedge? Can it be grown from the seed? If so, how and when sown? Can it be grown from slips? If so, how and when set? Will cattle or sheep eat the plants? Could it be made successful for a hedge, it would be a great benefit to the farmers of Berkshire. A. P. VIETS. Hancock, Mass., Feb., '63.

The Buckthorn is raised from seed—it does not grow readily from cuttings. Wash the pulp from the seed in autumn, and then manage and plant them precisely like apple seeds, and they will grow as readily and freely. The fibers of the roots being numerous, they may be transplanted with scarcely any loss—not one in ten thousand need fail if well set out and cultivated. The land should be fertile, or the growth will be feeble, and they should be kept well cultivated for some years, by passing a horse cultivator on each side of the row. Buckthorn hedges will not flourish in the shade of other trees, nor in a soil covered with grass. The mode of cutting back and training is figured and described on page 268 of the ILLUSTRATED ANNUAL REGISTER for 1860, or 2d vol. RURAL AFFAIRS. As the bark and stems have a very repulsive taste, cattle and sheep will not touch them.

MANAGEMENT OF BEES.

The queen bee, the mother of the swarm, chooses the central part of the hive for depositing her eggs. This fact is understood by every observing bee-keeper. If the hive is only a square box, if it is taken down at the breeding season, it will be found that the honey is stored mostly in the upper part of the hive, and in the side sheets and outer edges of the comb, and the central portions of it, nearly to the bottom of the hive or pretty well down, are filled with brood; and whoever has had occasion to remove the stores from the hive after the breeding and honey season has passed or has witnessed its removal, has observed that the top of the comb for some inches, is filled with clear honey, suited to save for table use; and that a portion of that in the outside sheets partakes of the same character. The central portions, after the brood have been hatched out, have been filled down with honey, as the honey season has held out, and present a sheet with some cells filled with honey, some with bee bread and some half filled with bread, unfit for use but by careful straining, and then not suitable for table use. This manner of proceeding discloses His wisdom who taught them instinctively to pursue this course. The queen places her brood where the greatest degree of warmth is felt from the surrounding swarm, to carry through the hatching of the eggs deposited by her, and developing the perfect insect. In this central position, they are more perfectly guarded from foes, by the swarm that surrounds them.

It should likewise teach those who would profit by their labors, the proper manner to secure the surplus. There is much difference in the estimated value of clean white honey in the comb, and honey strained from the comb. There is much difference in honey in the comb cut in pieces, and a part of it drained out, brought to market in a pail or tub, or brought in a neat box as stored by the bees, and its quality readily discovered through the glass sides of the box. These facts suggest the propriety of an arrangement to give them boxes for storing the honey on the top and sides of the hive. And if care is taken not to have the boxes of too great depth, with plenty of room in the body of the hive for the purpose of breeding, there is little danger that the queen will deposit its eggs in the comb in the boxes.

The use of boxes upon the top of the hive and sides, has long been understood, but there has been a difference of opinion or practice on the question, "how much the room of the hive should be actually increased by boxes." We believe the most general practice has been to give one or two boxes at a time, and as often as filled, remove them, and put empty boxes in their places; and these have generally been placed upon the top of the hive. I think the questions—

"should the capacity of the hive be greatly increased, by the addition of boxes? To what extent, and how should they be placed?" are deserving careful consideration.

Albany, N. Y.

J. HAZEN.

Product of a Small Dairy.

MESSRS. EDITORS—I send you the product of my small dairy of seven cows, for the year 1862. Whole amount of butter made was 1,603 pounds 10 ounces, or a fraction over 229 pounds per cow. This is about 19 pounds less than the same cows averaged the year before. I attribute this falling off to the dry weather. All soiling crops lacked succulence, and the second crop of clover grew very slow but dried up very fast, so that it was poor feed for cows giving milk; and fearing a pinch this winter, I was more sparing of corn-fodder than I should otherwise have been. Moreover, the fall feed was a very short, dry affair. I would just say, to be in the fashion, that I raised five calves, fattened three hogs, and sold one or two deacon skins; but in my own case, I think the less that is said about *this* matter, the better, for I never could raise calves or fat hogs on skimmed milk *alone*, though it is something of a help; yet the labor of feeding it is about all it is worth for making pork, at any rate. I hardly think it worth while to swell the product of the dairy by crediting the cows with the raising of so many calves, and the making of so many hundred pounds of pork, when in fact the thing was done *chiefly* in some other way. I should have said in the proper place, that milk and cream was used for a family of six persons.

Jefferson Co., N. Y., Jan. 26, 1863.

J. L. R.

P. S.—I should also have stated above, that we disposed of over two hundred quarts of milk, and some quarts of cream, not by sale, but in quite as satisfactory a manner.

MERINO SHEEP.

EDITORS CO. GENT.—A. F. T. wishes a description of French and Spanish Merino sheep. The French are much the largest, coarsest boned sheep; shear the heaviest fleece (including yolk); have large heavy rolls or wrinkles in the skin about the neck and sometimes on the body, requiring good feed to keep them from deteriorating—sometimes liable to long coarse hair, interspersed in the wool, which is objected to by manufacturers. I have heard it said of one of the first prominent importers of French Merinos, that when a customer was ready to start with his purchase, he would say, "you must feed these sheep so and so, or they will run down on your hands."

Spanish Merinos are smaller in carcass, finer boned, closer built, shorter legged, wool of finer staple, yielding, I believe it is admitted, an equal amount of clean wool according to weight of carcass, and will admit of being kept in larger flocks.

I have ever been a great admirer of Merino sheep, having been acquainted with them from their first importation by Gen. Humphrey of Derby, Conn. I remember well the great Merino speculation, when single sheep were sold for \$1,000, \$1,500 to \$1,800, and Levi Candy of Oxford, Conn., told me he had the offer for one sheep, "to place the sheep in one end of the scale and silver in the other until the sheep was balanced," which offer he refused. I was for a number of years a breeder and dealer in fine wool sheep, but found nothing that pleased me so well as the descendants of the first importations. Waterbury, Conn.

B. H. ANDREWS.

THE HUBBARD SQUASH IN EUROPE.—JAMES LEVESQUE, an extensive market gardener on the Island of Jersey, writes to the COUNTRY GENTLEMAN as follows:—"I have never eaten anything equal to the 'Hubbard Squash.' It beats all. I hope I shall be able to save the seed *true*. My neighbors have other sorts near me, and I am afraid mine will be crossed. They show it only from last year, and I planted them as far away as I could."

NANKIN SHEEP

EDS. CO. GENT.—I have recently noticed a request in your paper by J. B. S. of Montpelier, Vt., for information respecting "Chinese Sheep," their weight, quality of mutton, hardiness as compared with other breeds, their wool, the number of lambs at a birth, &c., &c. As I first introduced the Nankin sheep in this country, perhaps a few remarks about them may be interesting to sheep and wool-growers.

I shall go back to the commencement, when I only had three sheep of this breed, and none other of any kind. They had then just arrived from Nankin, China. These three were all ewes, from which I had, in twenty months, a clear increase of more than 70, and raised them. I am aware that this statement will not be generally credited, and I will endeavor to make it plainer by further explanation.

These three ewes were all large with lamb when I took them from the ship, and in a month or less each one had three lambs, making twelve, old and young. Then, as I had no buck at first, was compelled to wait about four and a half months for a young buck; and in nine months both old and young were coming in—the old ewes the second time—the young ewes with three lambs each, and of the old sheep, one had three lambs, one four, and the other had five lambs—the latter sheep raising the whole five, and all grew to be large sheep, and breeding twice a year. At this rate, it will not be difficult to understand how I raised 70 in twenty months. If we had taken the proper care of them, 80 or 90 might have been raised in that time, as quite a number died from the want of care, having no suitable stables, nor were they separated as they ought to have been.

I then sold the whole flock to R. L. Pell, Esq., of Esopus, Ulster Co., N. Y., except one ewe, and from it I have since raised a large flock.

The live weight of the bucks is from 175 to 200 lbs., and the ewes proportionately heavy. The quality of the mutton is the finest I ever saw, being entirely free from the strong taste common with most other breeds of sheep. The wool is coarse and long. They are easy keepers, and do not jump fences—a low stone wall is sufficient to turn them. They are quite hardy, and stand our northern winters equal to any sheep I ever saw. Their great recommendation lies in the quality and quantity of mutton that can be produced in a short time.

I have also made some valuable experiments by crossing Nankin with other breeds, which I will give you if desired. [Shall be pleased to receive the details.—EDS.]

Norwalk Island, Norwalk, Conn. THEODORE SMITH.

THE BEST BREED OF SHEEP.

MESSRS. EDITORS—I am aware that there is a great diversity of opinion among farmers in reference to this subject, but I think a candid estimate based upon facts, with the application of figures, will readily convince the most fastidious.

We will firstly consider the Merinos, which are all the rage in many parts of the New-England States, New-York, and some portions of Canada. A flock of Merinos, weighing upon an average 100 lbs. each, would be considered a very superior lot, and would probably clip about eight pounds of wool per head at the age of two years, which, selling at 50 cents per pound, would amount to four dollars a head. At this estimate, the annual wool-clip of a flock of one hundred ewes would amount to \$400. Now allowing extraordinary good luck in rearing lambs, there might be as many saved as there were ewes—these selling at the market price in the fall of the year, (\$2 apiece,) would bring \$200, which added to \$400, would make \$600 the annual income from a flock of 100 Merino ewes. But this result could not be obtained except with a very superior flock, with the best possible management.

The same sheep at the age of five years, well fitted for the market, (and I might here add that no sheep should ever be kept longer than to this age,) would realize to the owner about five dollars each. Thus an individual acquainted with the management of flocks, with a proper location, might realize from a flock of 100 ewes to start with, the sum of \$2,300 in the space of three years time, as gross income.

Now then for some of the larger breeds, such as Cotswold, Leicester, Oxford-Downs, &c. The average weight of a superior lot of Canadian sheep of either of these breeds, would be about 160 lbs. Such a flock at the age of two years, would clip about 10 lbs. of wool per head, which under existing circumstances, would sell for as much as the finest quality of Merino wool, say 50 cents per pound, or \$5 per head, or \$500 for a flock of 100 long-wool sheep. As these sheep are very hardy, great feeders, and great milkers, and very prolific, it is not a high estimate to count on one hundred and twenty-five lambs to one hundred ewes—these selling at the market price in the fall, for mutton purposes, would readily bring \$3 per head, or \$375 for the lambs, which added to \$500, makes the sum of \$875 per annum the income from one hundred long-wool sheep. But as of the Merinos, the exercise of the greatest possible skill and care in the management of them, to obtain this result, is required. I think but very few do it in either case; still it can be done, and has been to my personal knowledge, although not on so large a scale.

But, says one in favor of Merino sheep, although you have shown the income from the long-wool sheep to be about one-third more than the other, still I claim that the cost of keeping is full one-third more than that of the Merinos. Admitted. Then we are even? Denied, for this reason—the long-wools when well fitted for market, will sell for about \$12 per head or more, from the fact that the flesh is of a superior quality; and extra heavy fat sheep, as with extra heavy fat cattle, invariably sell for extra fat prices. Therefore the figures show a heavy balance in favor of the long-wool breeds, of the different classes of which I will write hereafter. They are not all entitled to the same merits; however, they are all hardy, with strong constitutions, and attain great size when properly fed in winter, and grazed in summer. F. E. W. Halle, C. E.

BROOM CORN AND HOW TO RAISE IT.

Broom corn, I think, is a profitable crop. You need good seed; it should be drilled in rows three feet apart. It must be weeded out after it gets three or four inches high, being careful not to pull up the young corn as it looks much like weeds when young and small. It should then be carefully hoed, and the cultivator and plow run between the rows; it will then grow very fast.

Some top it or break it over (the whiskers,) but the best way is to let it be, and when ready, cut down the stalks and throw in rows, and after a few days cut off the stalk about 4 inches from the butt end of the whisk. Then after a few days you must tie the whiskers up in bundles, and stack on the ground, putting plenty of the stalks under and around, and the whiskers in; but if you have a small lot, it is best to put in the barn or under cover, to be ready to hatchel when convenient. The finer the whiskers and greener, the better the brooms.

Broom-makers now charge 9 cents for making. We had ours made near Madison in this county.

North Chester, Morris Co., N. J. J. T. HOWELL.

THE HOG CHOLERA.

A few years ago I lost several fine hogs from that disease. The following remedy saved all the rest of them: Four ounces copperas, 4 oz. cooking soda, 1 oz. sulphur. I pounded all fine together, gave each hog a tablespoonful twice a week in their feed. A short time ago a neighbor, Mr. McHenry, lost a few hogs from the same disease. I gave him the receipt, and I have not heard of other losses. G. H. M. Baltimore Co., Md.



ALBANY, N. Y., APRIL, 1863.

☞ The Agricultural Statistics taken under the Law of last winter, are beginning to come in. As an example of what has been done in Queens County, Mr. CORNELL furnishes the COUNTRY GENTLEMAN with the following abstract of the returns obtained by Mr. JOHN HAROLD for the Township of Oyster Bay, showing a gratifying and in some respects unexpectedly large yield:—

Agricultural Statistics of the Town of Oyster Bay, Queens Co., for the year 1862.

Hay,	11,902 acres, ..	16,289 tons; average per acre, 13 $\frac{1}{2}$ tons.
Wheat,	2,697 do. ..	43,177 bush.; do. 16 bush.
Oats,	3,251 do. ..	71,505 do. do. 22 do.
Rye,	1,480 do. ..	10,235 do. do. 7 do.
Buckwheat,	1,028 do. ..	10,256 do. do. 10 do.
Corn,	4,245 do. ..	123,739 do. do. 29 do.
Potatoes,	941 do. ..	81,562 do. do. 86 $\frac{1}{2}$ do.
Roots,	95 $\frac{1}{2}$ do. ..	37,077 do. do. 389 5/7 do.
Cows,	1,298	157,658 lbs. butter; average per cow, 81 7-9 lbs.
Do,	374	193,986 gall. milk; do. 519 gallons.
Hogs,	3,766 killed.	747,076 lbs. pork; aver. per hog, 198 2-5 lbs.
Horses,	130 sold, \$13,805;	average per horse, \$106.20.

The whole returns in printed form, will be sent to Col. JOHNSON when ready. J. H.

It will be remembered that the time for handing in the Agricultural Statistics was extended to March 1st; but those counties in which returns are still incomplete, should not fail to go on and finish them, even if it is impossible to have them reach Albany until somewhat later in the season.

☞ Mr. JURIAN WINNE of this county, whose operations in sheep feeding have been noticed in our columns heretofore, informs us of the result of his this winter's efforts in that direction. He fed 453 sheep, Leicesters and grades, purchased last autumn in Canada West. Out of this number there were 100 which, before leaving home for market, averaged the handsome weight of 180 pounds per head. Setting aside a few which did not thrive as well as the rest, or for other reasons, there were 414 head, which averaged a weight of 156 pounds each at home. Of the whole number fed

54 head were sold two or three weeks ago for, \$788.00
399 head sold last week for, 4,537.40

453 head averaged \$11.75 per head—total, \$5,325.40
For so large a number of animals, we need not add that these averages are extraordinarily high, and until some other locality can make a better report, we shall place Albany county "at the head" on sheep feeding.

SHEEP SALES IN VERMONT.—One would hardly think that the sheep-breeders of Vermont, needed a paper especially devoted to their interests. If we may judge from the sales recently chronicled in the Vermont papers, the sheep-fever is already raging there pretty strongly. The Rutland Herald states that Mr. Jesse Hinds of Brandon has sold to Mr. C. D. Sweet of North Bennington, 26 two-year old and 4 yearling ewes, for \$3,000, being an average of \$100 each. The Middlebury Register says that C. D. Lane has sold 33 ewes and one ram for \$3,000—S. S. Rockwell 18 ewes for \$1,400—P. Elthrop, 6 ewe lambs for \$600—S. Andrews, 7 ewes for \$550—F. H. Dean, 4 ewes for \$300—H. Gifford, one ram, \$300. All these lots were purchased by Mr. John Foster of Guernsey Co., O. Other sales are noted as follows: Edgar Sanford sold Mr. Manholm of Ohio, 6 yearling ewes for \$1,200, also 17, the balance of

his yearling ewes, to Wood, Holmes & Singer of Ohio, for \$1,300, making \$2,500 for 23 yearling ewes. Henry Hammond sold 6 ewes for \$2,000.

Through private sources we hear of other sales at even larger prices, and of offers said to have been refused at rates almost unprecedented. The warning conveyed in the report of the Executive Committee of our State Agricultural Society, referred to in our last, against carrying this excitement to farther extremes, was timely, and should receive the attentive consideration of our farmers.

It will be noticed that our Advertising columns this week contain the announcements of several flock owners, who offer good sheep for sale. We cannot but think that there are enough Merinos in the country to supply any reasonable demand, without the enhancement of rates to a purely speculative figure. It should be remembered, moreover, that other grades of wool are in active demand, at prices not far below those of the finest fleeces.

☞ Messrs. CHARLES & VAN METER send us the following statement of fat Beeves shown at their stall in the Center Market in this city, on Saturday last:

We are exhibiting on our stalls in Center Market today, in honor of the immortal Washington, a very large collection of the finest beef we ever have had on our stalls, and all of it the production of our own Empire State.

Among the number is a four year old steer, bred by Mr. RAMSEY of Argusville, Schoharie Co., which weighed right off the cars without feed or water, 2,400 lbs, live weight. His dressed weight is as follows:

Open fore quarter,	463
Close do	455
Open hind quarter,	350
Close do	350

1618 lb. beef.

Making 66 $\frac{1}{4}$ lbs. beef to the hundred.

Hide,	140
Tallow,	180

1938 pounds.

Making 79 $\frac{1}{2}$ to hundred to the five quarters.

Also 2 pair of very fine oxen fed by the BATES brothers of Schuyler's Lake, Otsego Co.:

No. 1. Live weight, 4,510 pounds. Beef 2,832

No. 2. do. 3,970 do. Beef 2,394

The Ramsey steer was fed meal while at grass, which he thinks the time to make the meal pay the best, as it all tends to fatten, and not required to keep him warm as in winter.

CHARLES & VAN METER.

Albany, February 20, 1863.

CHERRIES IN CENTRAL INDIANA.—J. C. TEAS of Rayville, Ind., in a recent letter, says: "I do not find the Dukes much, if any, hardier than the Hearts; the May duke may be, but the Belle de Choisy, Belle Magnifique, Reine Hortense, Royal Duke, &c., seem as liable to be winter-killed as the large growing varieties here. Gov. Wood has done the best of any cherry tried; Belle d'Orleans next—Early Purple, Bauman's May, Sparhawk's Honey, Elton and Great Bigarreau have done well, but not so full as Gov. Wood. Bauman's May bore the fullest. Napoleon least. All the trees are young, and will probably bear better as they become older."

"RURAL AFFAIRS."—I consider this one of the neatest and best little books extant on the subjects of which it treats. It is just such a work as every young and old farmer needs to guide him in his farm labors. If the suggestions were strictly followed, it would make and save for the possessor many dollars in the course of the year. I am so well pleased with it, that, were it to raise a nine-nine patch of potatoes annually, I would have it. I hope that it will find a place in every farmer's library.

Willshire, Ohio.

T. J. K.

☒ The Executive Committee of the Illinois State Agricultural Society announce a Trial of Implements for Farm Culture, to take place near Decatur in that State, commencing Monday, September 21st, 1863. This Trial will include the following implements:

1. Two-horse Plows for general purposes.
2. Two-horse Plows for sod or turf.
3. Gang-Plows.
4. One-horse Corn-Plows.
5. One-horse Single Shovel Plows.
6. One-horse Double and Treble Shovel Plows.
7. Trench Plows.
8. Subsoil Plows.
9. Newly invented implements by which the soil can be well broken up and thoroughly prepared for seeding, at less cost than by ordinary plowing.
10. DITCHING MACHINES for making open drains.
11. One-horse Cultivators.
12. Two-horse Independent Cultivators.
13. Two horse Cultivators with combination for seeding and planting.
14. Two-horse Harrows.
15. Field Rollers.
16. Grain-Drills.
17. Broadcast Grain Sowers.
18. Machines for Cutting and Shocking Corn.

The Society's circular remarks:—"The city of Decatur situated at the crossing of the Great Western and Main Trunk of the Illinois Central Railroads, is almost in the geographical centre of this State; surrounded by an agricultural region of unsurpassed excellence; and a glance at the map will satisfy those abroad, unacquainted with the locality, that it is as readily accessible, by railway, as any point in the entire Northwest. The Premiums awarded at this test will be the Society's best GOLD and SILVER MEDALS. A detailed list will be published at an early day. Ex-President Webster of the Board of Counsellors is Superintendent of the Trial. Competent committees will be appointed, and all proper arrangements made under the immediate supervision of the whole Board. The Fair of the Society for 1863 is located at Decatur, and will be held the week following this Trial, in close proximity to the fields selected for the Test of Implements."

☒ Mr. C. M. SAXTON, 25 Park Row, New-York, has compiled and published a "Complete Manual on the Culture of Tobacco," 82 pages, paper covers, price 25 cents. It includes the illustrations and much of the remarks on this subject, contained in Hon. GEO. GEDDES' late Survey of the Agriculture of Onondaga County—also an original article prepared for the purpose by Mr. H. BEARDSLEE, an experienced Tobacco Grower in Connecticut.

☒ Col. F. M. ROTCH, Morris, Otsego Co., has sold the Short-Horn bull calf "Duke of Otsego," by Lord Oxford (the bull sold in England last year by Mr. Thorne, to his Grace the Duke of Devonshire,) out of Grand Duchess, and now about nine months old, to S. F. CARMALT, Esq., Friendsville, Pa. Mr. Carmalt is doing much for the improvement of stock in that part of Pennsylvania.

FLINT'S MILCH COWS AND DAIRY FARMING.—The book I sent for (Milch Cows and Dairy Farming,) has been received, and I have been very much disappointed in the work—it is so much more practical, and altogether better than I expected. Taking that work as a guide, it seems to me that a mere novice might succeed in making good cheese or butter. It ought to be in the hands of every dairyman. J. C. A. Clarksville, Iowa.

SORREL AND SANDY LAND.—A writer in the *Rural New-Yorker*, a few years since purchased a sandy farm, run down by long cropping without manuring, and covered with "a splendid coat of sorrel." He plowed under the sorrel before its seed ripened, worked it with a cultivator occasionally during the summer, and then sowed it to wheat. The next March he sowed on twelve pounds of clover seed per acre. The wheat averaged twenty bushels per acre, and the clover "caught beautifully." This was a cheap method of renovating his soil.

☒ Bell's Messenger, London, publishes a list of the winning Short-Horns in the first class of bulls and cows respectively, at all the Shows of the Royal Agricultural Society, from 1839 to 1862 inclusive, and states, as the result, that during these twenty-four years "fourteen first prizes in the first class for bulls and for cows, were taken by animals of pure Booth Blood—13 cows and 1 bull. Four of the winners were bred by Mr. John Booth; nine by Mr. Richard Booth, and one by Mr. Bannerman. The Bates and the Towneley animals came next in honors. Six of the former, in the hands respectively of Mr. Bates, Capt. Gunter, and Lord Feversham, and an equal number of the latter (though one of these was the pure Booth blood cow Beauty,) have carried off first prizes."

PROFITABLE ONION CROP.—Mr. Ordway of Essex Co., Mass., received last season a premium from the County Agricultural Society for the best crop of onions, over 460 bushels (50 pounds to the bushel) on half an acre of land. The year before the crop was corn, which also took a premium. This received 2½ cords of barnyard manure, plowed in 5 inches deep; last spring 100 bushels of leached ashes was spread on and cultivated and harrowed in, after which the ground was raked and sown May 7th, weeded out three times, cost of crop, \$60; onions sold at 50 cents a bushel; profit, \$170.

☒ Mr. SYLVESTER LEHMAN of Sharon, Schoharie Co., has lately purchased of Hon. T. C. PETERS, Darien, Genesee Co., one of the young Short-Horn bulls recently advertised in this paper.

DISEASE AMONG FOREIGN CATTLE.—Typhus is said to be raging to rather a serious extent among the herds of Bohemia and Hungary, and the disease is stated to be of so contagious a type that even sheep are affected by it. Considerable interest has been excited among graziers and breeders in Great Britain by the announcement that the disease has been communicated contagiously to sheep, and further and more exact information is awaited on the subject with curiosity.

OHIO POMOLOGICAL SOCIETY.—The annual meeting of this association was held at Columbus, Feb. 11 and 12, when the following officers were elected:

President—Dr. J. A. WARDER, Cincinnati.
Vice President—J. Austin Scott, Toledo.
Secretary and Treasurer—M. B. Bateham, Columbus.
Dr. E. Taylor, Cleveland, S. B. Marshall, Massillon, G. W. Campbell, Delaware, J. R. Miller, Springfield, Committee ad interim, along with the officers.

BARLEY.—I send you a statement of a large number of straws from one kernel of barley—the kind of barley that shells out of the chaff like wheat, I do not know the name of it. I planted fourteen kernels, and thirteen came up and grew finely. The least number of straws from one was six; the largest number of straws from one was forty-three, with heads from eighteen to ninety kernels on each straw. If this can be beaten, I should like to know how. I planted about ten inches apart, in a well manured bed, in which I had stuck some currant cuttings.

Fairhaven, Vt. J. J. CROUCH.

THE ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS FOR 1863.—This volume has been published by Luther Tucker & Son, Albany, and is for sale by A. Williams, of this city. It is a very valuable Annual, worth to any farmer or horticulturist many times its cost, which is but twenty-five cents. It is full of useful matter.—*Boston Recorder*.

“The Association of Breeders of Thorough-bred Neat Stock,” held its fifth annual meeting at Hartford, Ct., March 4th. The Short-Horn Herd Book, announced as in course of preparation under the auspices of the Society, was laid before the meeting, comprising pedigrees of 71 bulls and 221 cows. The Devon, Ayrshire and Jersey lists were announced as either in the printer’s hands or nearly ready. The committee on Ayrshires reported that about 300 pedigrees had been examined and approved. The committee on Devons reported 450 pedigrees received from 55 breeders scattered throughout the New-England States. No report was made on Jerseys. The financial statement showed a debt of about \$300 owing by the Association; and on the proposition of Mr. PETERS, the President, a subscription, in sums of from \$5 to \$25, was made up, and the whole debt cancelled. Discussions were held in which the merits of the different breeds were enlarged upon at length by their respective advocates. The following resolutions were proposed and unanimously adopted:

Resolved. That the use of grade bulls for breeding is a great hindrance to the improvement in neat stock, and such practice should be discarded, not only as unwise but injurious to the farmer.

Resolved. That while we would not exclude any from the benefits of agricultural societies, the past course of many in offering premiums on grade bulls, is a retrograde movement, and should be abandoned.

The curing of Hams and Bacon constitutes a large interest in the English county of Cumberland, but one which has suffered considerably from the competition of American packers. A recent article in a local Journal published at Carlisle, the county seat, reviews the subject at some length, and says that much improvement has been effected in the provisions put down here to send abroad. “The recent importations are not only very large, but of superior quality, and much better adapted both by condition and cut for the English market than the produce formerly imported from that country.” The hams of Cumberland are noted for their superior quality; but the American ones are said to be “an excellent imitation of Cumberland, and would certainly require the taste of an experienced person to detect that they have been cured 3000 miles west of the county.” The importations into Great Britain from the United States and Canada during the eight months preceding Feb. 1st, are computed to be, in Hams, equal to the produce of 172,183 pigs, and, in Bacon, to the produce of 365,612 pigs, or as great a quantity as the large county of Cumberland will probably be able to produce for ten years to come in hams and twice this period in bacon. And as a large quantity of shoulders, &c., are imported under the general head of provisions, the above figures really represent very inadequately the proportions which have been attained by the American trade in cured meats.

Mr. WILLIAM HURST, of the “Log Tavern Farm,” near Albany, has lately sold to Messrs. BATES Brothers of Schuyler’s Lake, Otsego Co., N. Y., his Short-Horn bull “Monitor,” by imported Neptune, and out of imported Finella—also the roan Short-Horn cow “Agnes,” by Lamartine. Messrs. BATES Brothers were the persons, referred to in our last number, as having fattened and sold some fine beeves to Messrs. Charles & Van Meter, exhibited by them at the Center Market, Albany, on Washington’s Birth-day.

Mr. HURST has also sold to Mr. GEORGE CARY, near Albany, a two-year old Short-Horn heifer out of Agnes, and got by imported Neptune—also a short time since, to

Col. WM. H. SLINGERLAND of New-Scotland, Albany Co., the yearling Short-Horn bull “Napier,” got by imported Neptune, (11847,) and out of imported Finella by imported Grand Duke (10284.) Such blood should improve the herds of these gentlemen.

We learn that STEUBEN is the first County in the State to send in to Col. JOHNSON, Secretary N. Y. State Ag. Society, its complete Agricultural Statistics for last year, as required under the law of 1862. These statistics have been gathered under the superintendence of Hon. G. DENNISON, President of the Steuben County Agricultural Society, and his report in sending them, is a very satisfactory one.

Sugar or molasses is recommended as an ingredient in mixtures for steeping wheat, barley, oats or clover seed before sowing. Mr. RONALD, a merchant at Glasgow, arguing from the fact that during germination the starch of the seed is converted into sugar, as exemplified in the malting of barley, and supposing that saccharine matter coating the seed might yield important nourishment to the young rootlets when the resources of the parent seed were exhausted, tried the experiment repeatedly during the years 1857-59, and states that the average result was “an increase of something like 80 per cent. in wheat over the yield from seed sown in the ordinary way.” The experiment is perhaps worthy of a trial.

FARM IMPLEMENTS.—A subscriber in Canada East, writes under date of Lennoxville, March 2: “We are very much in want of some farm implements that cannot be purchased here, such as turnip-drills, horse-hoes, &c., &c., and it would be for the advantage of those having such for sale to inform us of the kind, prices, &c.” [We frequently have inquiries of this kind sent us, and we cannot but think that manufacturers and dealers would find it to their interest to advertise their wares more liberally.]

WATER-RAMS.—I noticed some months since, an inquiry from some one of your correspondents, as to the construction and working of Rams. I have one of Douglass’, which I had put in five years since, and it has been constantly at work ever since. I could give some information if desired. S. P. A. Boston, Mass. [Shall be glad to receive it.]

At the Annual Meeting of the ALBANY CO. AG. SOCIETY, held at the village of Clarksville, Feb. 25th, the following officers were chosen for 1863:—

President—JURIAN WINNE.
1st Vice President—James W. Jolly.
Secretary—S. C. Bradt.
Treasurer—Wm. H. Slingerland.
Directors—O. H. Osborn, Henry Crebel, David Callanan, Alex. E. Willis, Geo. B. Hoyt, Jacob Simmons.
Vice Presidents—Luther Tucker, L. Dederick, M. Hallenbeck, and Geo. Young, Albany; Ira Boyington, James A. Reamer, Bern: John McHarg, Jacob Vedder, Bethlehem; Wm. Tuttie, Fletcher Blaisdell, Coeymans; Peter Shaver, M. J. Blessing, Guilderland; S. Mercelus, Jno. Hungerford, Knox; Geo. W. Bender, Henry Callanan, New-Scotland; James E. Mackey, Silas Sayre, Rensselaerville; Jacob Messenger, C. H. Witbeck, Watervliet; G. A. Miller, Levi Holmes, Westerlo.

There will be a meeting of the Board of Managers and Vice Presidents, at Houck’s Hotel, on Tuesday, June 2d, at 12 o’clock, M. S. C. BRADT, Secretary.

PARSNIPS FOR STOCK.—There can be little question that parsnips are of equal value to carrots for milch cows or swine, and they have some advantages over the latter in the matter of keeping through the winter. They are especially calculated for spring feed—coming out of the ground in the finest order just when most needed for our animals.

Inquiries and Answers.

USE OF APPLES.—Can you give me any information how apple whiskey is made, the profit, &c. B. D. [We would not recommend the manufacture of apples into whiskey—establishments for this purpose are apt to injure the character, as well as the reputation of neighborhoods, in proof of which many instances might be cited. We think a more profitable way of using apples is feeding them to all kinds of domestic animals. Provide a large, dry cellar for them, where the temperature will be a little above freezing during the winter, and they will keep well. Horses are very fond of them; they are excellent for cows, also for sheep and swine, and are about as valuable as carrots and other roots.]

SAW-DUST AND CHIPS FOR MANURE.—How can I rot or compost hard maple sawdust and turning chips to make them into manure? I can have 400 cords per year for the hauling of them 100 rods. Can I make it an object? D. A. M. *Uniondale, Pa.* [Under ordinary circumstances these chips would last several years, and would be useful in loosening clay soils, but useless and perhaps detrimental on sandy or gravelly ones. If they could be spread or placed in a heap on the ground, where they might be repeatedly moistened in contact with air, their decay would be hastened and in a year or two would be useful for spreading over manure yards, or for forming part of compost heaps.]

BOOKS ON DOMESTIC ANIMALS.—Will you let me know which, in your opinion, is the best treatise on horses, cattle, hogs and sheep? I have Dadd's Horse Doctor, but it is so incomplete that it is hardly of any amount. I regret my money. I have some others, but too succinct on the matter. For example, I wish to hear of a sure remedy for blood-spavin, one tried and proved to be good and effective. B. J. *Dane Co., Wis.* [Our correspondent will not be able to find any book that will furnish certain remedies for the different diseases. Medicines sometimes accomplish much, more frequently very little or nothing. Good care in regular feeding, wholesome food, drink, cleanliness, regularity and careful use to prevent diseases; and careful nursing, rest and attention to the comfort of the animal, are worth more than all the doctors. Youatt's Treatise on the Horse is much more complete and minute than Dadd's; but much allowance must be made for the cut and slash, kill or cure management, which it recommends. For diseases of cattle see Dadd's two treatises and Youatt. For sheep, Youatt and Morrell. For swine, Youatt and Martin, (published by Saxton,) and Richardson on the Hog.]

AN OLD FIELD.—I have what is here termed an "old field," or in other words a worn out one, containing about 15 acres, soil light sandy loam—"pine land." Before it came into my possession it was repeatedly cropped with little or no dressing—first corn then rye, then rest for a year or two with no seed. I find upon examination that it was plowed five to six inches in depth, so that not a great deal is worn out. I have this month plowed a part of it eight to nine inches, and propose to dress it with bone and sow to barley, then, as soon as the barley is off, put on rye and grass seed; when well rooted, turn on sheep, not cut the rye at all. Is that well, or is some other plan better? How early may I sow barley? G. W. H. [The mode of treatment proposed would probably answer well. The manure from the feeding sheep would enrich the land, although they might injure the young crop of grass. We should prefer to enrich this land by plowing in green crops of clover; if the barley is sown rather thinly and very early in spring, (as barley always should be,) the clover seed may be sown as soon as the barley is harrowed in, and covered by rolling. It will probably afford an abundant crop of clover by another year. Gypsum will probably produce a good effect on this land. The bone dust may be very valuable, but its effects are uncertain; the only way to ascertain is to try the experiment.]

GRUBS.—I have a lot containing about two acres, soil dark loam, rather moist—1861 it was in grass, and badly eaten by worms—white grubs with red heads. In the fall plowed—in the spring croes plowed and sowed to barley and oats. Crop badly eaten, and about July 1st turned it under and planted beans, and they were so badly eaten as not to yield half a crop. What shall I do next? What crop will they not destroy? Will either carrots, mangolds or peas withstand their ravages. G. W. H. [We ask our correspondents, who may have been successful with remedies for this case, for their experience. We have generally found good harrowing to be a remedy for most insects of the kind—how would thorough summer fallowing, accompanied with repeated plowings and harrowings, to be followed by manuring and crops, answer the purpose?]

CULTIVATORS.—What one implement is best adapted to working by horse power, among corn, potatoes, and root crops? Price, where for sale? G. W. H. [We have found Alden's Thill cultivator the best while the crops are small. This implement and another cultivator for taller growth are both manufactured by Remington & Markham, Ilion, N. Y. The price is not far from ten dollars.]

MANURES.—Last autumn I spread about one hundred and fifty loads of stable manure upon my meadow. Would it be well to go over it with a brush harrow this winter when frost is out, or should I leave it and the grass undisturbed to protect the roots until spring? G. W. H. [Brushing the manure so as to pulverize it finely and spread it evenly over the whole surface, is a decided advantage. One reason why top-dressing has not succeeded well with some, is in consequence of the practice of leaving it in lumps. The sooner the brushing is done the better, in order that the rains may carry the liquid parts into the soil.]

WORMS IN PIGS.—I have some pigs troubled with worms. What shall I do for them? Cannot make them grow much as they are. G. W. H. [We have had no experience under this head. Salt is frequently given, it is said with success, and turpentine by others. Although a severe medicine, it is said not to injure swine.]

DRAINING.—I have a farm of over 100 acres, composed of every variety of soil that is in Essex county, from the granite at the top of my pasture land, to the clay used for manufacturing brick and tile, and salt water mud and marshes. Forty acres in orchards and mowing, the balance pasture and marsh, thus requiring every variety of cultivation. As regards these stiff clays, will they pay to drain? They raise rank hay if well manured, but are cold, and hard to work, and timothy grass is very sour. We have no experiment that I am aware of in this vicinity. B. D. *Salem, Mass.* [The variety of soil possessed by our correspondent gives him important advantages. The light soil may be dressed with the clay, the muck used for compost, &c. The clay would, no doubt, be more improved by draining, and where now compact and impervious would soon become traversed by fine fissures from draining, and in a few years be porous and friable.]

DISEASES OF SHEEP.—We have lately lost two sheep in the following peculiar manner: The sheep suddenly shows a disposition to thrust its head violently out of sight, as into some dark corner, or into the rack—the eye becomes wild or glaring—within twenty-four hours the sheep begins to stagger and dies in spasms. Can it be what is called the "staggers?" An answer from you or your readers, as to the disease and the cure, would greatly oblige J. S. D.

THRASHING MACHINE.—Please advise me which is the best thrashing machine for a farmer to keep in his barn—price, size, &c., one or two horses, &c., and any information you can give me will be thankfully received. J. R. C. *La Crosse, Wis.* [The most convenient thrashing machine is one driven by the endless chain-power—a two-horse power is most efficient. The cost of a good two-horse power is

about \$120.—the same with thrasher and separator, about \$170—and with thrasher and cleaning apparatus complete, about \$250. One-horse power about one-fourth less, or three-fourths the cost of the two-horse power. Excellent machines of this kind, are made by several manufacturers in this State.]

PLASTER.—I have a piece of meadow that I think would be benefited by an application of plaster. How is it to be applied, and how much to the acre? H. S., JR. *Dayton, Ohio.* [Sow it with the hand from a wagon or cart, sowing the plaster at the rate of one to two bushels per acre—two bushels are ample. Windy weather should be avoided, and it should be sown rather early in spring.]

HAY-SWEEP.—The ANNUAL REGISTER, for a small work, I think cannot be beat. On page 180 of your last year's issue, is a description of a Hay-Sweep, which a friend of mine has become particularly interested in, and he feels confident that it will be of great service to him in future, and especially next season with the present prospect of help being scarce. I wish to ask if the article is patented, and if so, by whom? J. H. F. [The hay-sweep is not patented. It was invented and extensively used by Wm. R. Smith, formerly of Macedon, N. Y., now of Minneapolis.]

BEANS.—What is the Marrowfat bean? It is a bunch or pole? Will it grow with corn in the field? For the last three years I have failed in the Navy bean; my ground is too rich and they all run to vine. A few years ago I owned a farm that had a poor spot on it which grew them finely. C. J. S. *Lexington, Ky.* [The Marrowfat is a large variety of the white bean—when well grown, the seeds are about three-fourths of an inch long, and nearly cylindrical. When the soil is too rich for beans, or causing too free a growth of stem and leaves, select the smallest or most dwarf varieties of the white bean.]

OSIER FOR BANDS.—Can you or any of your correspondents inform me whether it is cheaper to raise osier for bands, than rye straw? If it is, how is the osier to be cultivated, and how soon after planting can it be used for bands? An article containing information about the osier would be acceptable. J. S. D. [The osier may be much more cheaply used for bands than rye straw. Two or three rods square will probably furnish as many bands for cornstalks, &c., as an acre of rye. The osier is raised from cuttings, which should be placed in good mellow soil and kept well cultivated for two or three years. Nearly every cutting will grow, and, in three years, a considerable supply will be afforded, and two years more will afford an abundance. It is important to procure the right species.]

BOOKS.—What is the best work on sheep husbandry? I have Youatt. Also, what is the best work on bees? I have Quinby. Sheep and bees are my delight—my specialty in farming. JOS. FORD. [Langstroth is the best book on Bees. A good work on sheep husbandry is very much needed—one which shall treat of the breeds as they exist in this country, their adaptation to different localities, their breeding and general management, whether mainly for wool or mutton, &c.]

FLAX MACHINE.—I have heard of a machine to brush and clean flax—one so simple that whoever sees it will only wonder that he was not the inventor of it himself. It breaks and cleans the flax without breaking the fiber. Can you or any of your correspondents give any light on the subject?

Montgomery Co., Feb. 17.

SUBSCRIBER.

CHICORY.—Can you or some of your correspondents, inform me where I can obtain chicory seed. It is not advertised by any of the seedsmen of Philadelphia, nor have I seen any notice of it in your advertising columns. T. J. E. [Thorburn & Co., seedsmen, New-York, usually import it, and we presume will have it for sale in season for planting.]

TOBACCO.—There is quite a feeling in this vicinity about raising tobacco, and we want the kind that would be best adapted for this cold clime. We raise corn here with but

little trouble. Please give us a little light on this subject, and where we can find the seed. E. H. *Franklin Co., N. Y.* [Will some of our tobacco-growers give us their views as to the best variety for extreme Northern New-York.]

BARNS, &c.—J. P. C., who says he is a new subscriber, asks us a number of questions, to all of which we shall endeavor to reply as opportunity offers. In the meantime we would advise him to purchase the three vols of "RURAL AFFAIRS,"—price \$3—in which he will find plans and descriptions of barns and stables of all sizes, together with more information adapted to the improvement of his twenty acres than in any other work published.

~~E~~ I have an ox that cannot drink cold water, as it seems to put him in great pain; and on examination I find his front teeth are most of them loose. A neighbor has a yoke affected the same way. If you or some of your numerous subscribers, could tell the cause and prescribe a remedy, you would much oblige A SUBSCRIBER. *Granby, C. E.*

STRAWBERRIES.—Please inform me through THE CULTIVATOR, where I can get a few plants of the "Triomphe de Gand" strawberry? Also where I can get some cuttings of the "White Willow?" J. D. M. *Park Co., Ind.* [The Strawberry can be had of any of the nurserymen who advertise in this paper, and the willow of F. K. Phenix, Bloomington, Ill.]

GROUT.—Will Grout (Concrete) make a suitable foundation for a hill-side barn? Will you or some of your readers who have tried it, please answer in THE CULTIVATOR? E. S. [Water lime cement may be used for building a cellar wall in all places where it will not be subjected to the crumbling influence of frost combined with moisture.]

ASHES.—The high price of ashes, with so many purchasers, renders it almost impossible to obtain them. Can potash be used any other way, besides to sprinkle on to manure in solution, when ashes are not to be had? E. W. STEVENS. [Ashes are probably the cheapest form in which potash can be furnished; the latter will of course answer the purpose, and our correspondent may determine the relative cheapness of each, by remembering that good wood ashes, (although greatly varying in its amount of alkali,) usually contains 10 per cent. or more of potash, and sometimes half as much soda.]

MOWING MACHINES.—I wish to call your attention to a mowing machine known by the name of Hopkins' Reversible, with full particulars as to its merits and cost? E. W. S. [We are not acquainted with the comparative value of the mowing machine mentioned. There are now so many excellent machines, that no one person can speak with confidence of the relative merits of all.]

PLASTER.—What time should plaster be sown on meadows and pastures in Tioga county, and how much per acre when sown every year? L. P. L. [Plaster should be sown early in the spring, at the rate of a bushel or a bushel and a half per acre.]

HAZEN'S BEE HIVE.—Seeing an allusion to what is called a Farmer's bee hive, in a late number of Co. GENT., and which I suppose to refer to the hive of Mr. Hazen, I wish to ask him this question, premising that I have not had much experience with bees. Supposing the bees *not* to swarm, but that the workers go forward with making honey, as he represented some months ago, if I do not forget, are the worker bees *sav'd the succeeding winter*, to engage in honey making the *next* season, as effectually or substantially the same, so far as said workers are concerned, as if they were allowed to swarm in the usual manner? Or, in other words, do the workers continue to increase under his system management, as fast as by usual swarming? Or, if not, how fast or about in what proportion to their increase at the usual rate of two swarms for common hive? As the season of increase is rapidly approaching, a full answer will oblige one farmer, and perhaps several who desire to keep bees profitably. C.

METEOROLOGY.—Do you think that meteorology will ever be raised to a science, so that the philosopher will ever be able to foretell the weather for years to come, such as rains, snows, hail storms, thunder storms, early and late frost, dry weather and wet weather, and master the laws that direct the storm? And is it true that the changes of winds and skies "are produced by causes of whose rules no thinking mind will doubt the fixity?" L. P. L. *Tioga, Co.* [Possibly we may discover in future some general rules that will assist us in determining the character of the future seasons, although as yet, in the midst of a vast amount of investigation that has resulted in great progress elsewhere, very little has been determined on this point. We do not believe we shall ever know anything of the weather in the long distant future, with the minuteness our correspondent points out. Physiologists will probably as soon discover from the examination of a child, how long it will live, on what days it will have headache, toothache, rheumatism, &c.]

CORN FOR FODDER.—I wish to sow or plant some corn for fodder the coming season. Will some one tell me what kind of seed to use? Will the common western dent corn answer, or must I get the Horse tooth variety; if so, where can it be procured? The dent I can get here. F. R. B. *Shipton, C. E.* [The smaller varieties of corn if sown thickly enough, make the best and finest fodder; and although the crop appears smaller and less showy, it is but little less in quantity. The larger sorts producing a coarse stalk require fine cutting by horse power to induce cattle to eat them. The dent corn is quite large enough, and should be sown quite thickly to prevent coarseness of stalk.]

LOCUSTS.—Is this year locust year? If it is, what is to be done with young trees? J. T. C. *Harford Co., Md.* [There are different broods of the 17 year locust, which appear in different years in various parts of the country. There are two that appear in Maryland, the first in 1868, the second in 1872. There is another, extending from western Pennsylvania through the valley of the Ohio river, and down that of the Mississippi, which appears the present year. This probably also extends into Harford Co., Maryland, and is the one referred to by our correspondent. We do not know any means of preventing its injuries to the trees.]

HEN-HOUSE.—I would like to inquire through THE CULTIVATOR, for the cheapest and best way to build a hen house. I have visited several of my neighbors, but I do not quite like their plans. I should like a plan of one large enough to accommodate about fifty hens. JOHN M. PADDOCK. *Meriden, Conn.* [The plan of a good poultry house which will accommodate from 20 to 100 hens is given on page 220 of vol 2 of Rural Affairs. Another plan will be found on page 34 of the same volume. A third on page 74 of vol. 3d.]

BRAKE FOR SLED.—Do you know of any suitable brake for a sled? My horses feel worse at keeping back the sled than any thing else I do with them. Please answer through THE CULTIVATOR. T. W. *Illinois.* [We have seen teamsters employ a log chain hooked around the forward end of one of the runners, that answered a good purpose. We have also seen a stout hooked pole or stick, so placed between the cross-beams as to plow into the snow, answering the same end.]

GRAFTING GRAPES.—What is the proper method of grafting grapes, and the proper time to cut the scions—also if shell-bark hickory can be grafted in the bitter nut and do well? H. G. WISE. [The grape is grafted by removing the soil and inserting the scion just below the surface. The grafts should be cut and preserved in a cool place, and inserted after the leaves have begun to expand. For grafting on a large scale, as by nurserymen, see a figure and description on page 213 of the ILLUSTRATED ANNUAL REGISTER for 1862. We know of no experiments in grafting the shell-bark on the bitter nut—they are different species of the same

genus, and possibly the operation may succeed; but more probably it will be very difficult or impossible.]

THE HORSE.—If you will tell me in the next number of THE CULTIVATOR, how I can restore to the original color a spot of white hair that has grown on the back of a bay colt, just back of the withers, occasioned, as I think, by a bruise got in rolling, and also how to promote the growth of hair on his tail, which I am told is worn off by the animal's disposition to rub that part of himself on account of the lampas, you will very much oblige. A SUBSCRIBER. P. S.—The gums have been lanced, although the swelling has not much subsided. His tail has been kept clean.

PEACH TREES.—When is the right time to cut off the tops of peach trees that were budded last fall. Also would it be a good place to raise peach trees under a hill that lies to the west or southwest—would the buds be likely to be injured? J. T. C. [Cut them off very early in spring 2 or 3 inches above the bud, and after the new shoot has grown a foot or so, cut off the stump thus left close to the place where the bud was inserted. Peach trees sheltered by an eastern hill from the morning sun are less liable to be killed by frost than where they have a full morning exposure.]

OSAGE ORANGE vs. WILLOW FOR FENCES.—I wish to have a serviceable fence of either of the above, just as soon as possible, and will thank you to tell me which of them will best answer my purpose. H. D. N. *Jackson Co., Iowa.* [The Osage Orange will be best and most perfect where there is a deep, dry subsoil, or an underdrain nearly under the line of the hedge, but where the soil has much moisture the willow will succeed the best.]

VINEGAR PLANT.—Will some one inform me where I can obtain the vinegar plant I have seen so much said about in THE CULTIVATOR, 1856. I have some 50 barrels old cider, which I am anxious to turn as quick as possible, and from what I read, thought it might be done more quickly by the aid of this plant if it could be procured. B. DRINKWATER. *Salem, Mass.*

TANBARK.—Is there any or much virtue in rotten tanbark, and would it be good for a nursery of apple trees? J. T. C. [Thoroughly decayed tanbark is similar in its character to vegetable mold, and will do for mulching or mixing in compost with manure.]

SORGHUM.—How much of this seed will be needed to sow an acre of ground? L. P. *Posey Co., Ind.* [M. Conard, in his article on the culture of Sorghum, p. 189, says four quarts per acre.]

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Feb. 19—w2tm2t.

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Feb. 12—w&mtf.

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Feb. 19—w9tm2t.

THE HORSE AND HIS DISEASES.

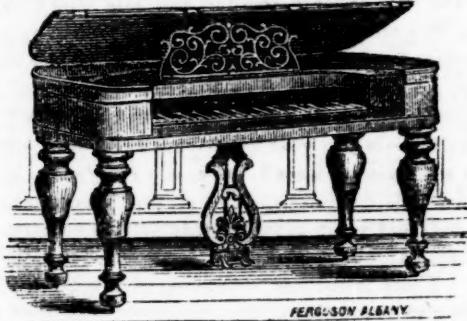
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Attention is called to the following letter from a farmer:

FARMINGTON, N. H., October 9, 1862.

JAMES R. DEY, Esq., President Lodi Manufacturing Co. For several years past I have used as a fertilizer, the Lodi Manufacturing Co.'s Poudrette. I commenced in 1859. I then had a tenant carrying on my farm upon shares. He agreed to use such artificial means as I should furnish free of expense to him, but he had but little faith in anything but barn-yard manure. I purchased some Poudrette. He took it from the freight house; opened it; came to me with eyes wide open, and said: "YOU HAVE GOT CHEATED; THIS STUFF IS NOTHING BUT DIRT." I told him, "I supposed I had; it was nothing new; I was in the habit of getting cheated, but as it cost him nothing, I wanted him to use it."

We had a piece of poor, sandy loam land, which he planted with potatoes, without manure. He put Poudrette in the hills eight rows, then omitted eight rows, and then put lime in the hill, as he had a mind to try that.

The result was, that where the Poudrette was put the potatoes came up three or four days before the others. The tops were twice the size during the season, and at harvesting we measured two lots of each, one of which the Poudrette, gave twice the quantity of potatoes, and the other in the proportion of five to three.

The lime had no perceptible effect.

We had a piece of corn land, sandy loam, (my tillage land is sandy and gravelly loam,) the corn had a liberal dressing, say ten cords of barn dung to the acre, spread upon grass land, a part plowed in the fall before, the balance in the spring. The tenant prepared a compost to put in the hill, a mixture of night soil, hog manure and loam well mixed, several times shovelled over, and well incorporated together. This was put in the hill. In eight rows through the middle of the piece, this was omitted and Poudrette was substituted instead. The result was the Poudrette brought the corn up sooner, of a better color, and at the end of two weeks after it came up, nearly twice as large, and it maintained it a head and shoulder above the other during the season. At harvesting we measured the corn, and where we got five bushels with the compost, we had six bushels with the Poudrette.

This satisfied me, and convinced my unbelieving tenant that it was something besides DIRT. I have used it with whatever I plant ever since, and shall continue to do so, as long as it maintains its character, and is furnished at reasonable prices. We sometimes think we save an entire crop of corn by the use of Poudrette, in case of early frost, as it brings the crop to maturity at least a week earlier.

There has been an increasing demand here since it has been introduced, and from my own observation, and the information of others, I think it does as well on upland soils as on sandy loam. I have not been so particular since my first experiment, but every year I left a few rows, so as to be sure that it maintains its character. The present year there is a very marked difference in the appearance of a few rows left without the Poudrette, in a piece of corn not yet harvested. The appearance of your Poudrette to one not accustomed to it, is not very flattering. I will relate an anecdote on this point. In 1860 I prevailed upon a neighbor to try a couple of barrels, for which, I think, he paid me \$1.20. He informed me afterwards that he took it into his field all alone, and opened it; said he, I shall to myself, if some one will come along and give me a dollar, he shall have both barrels. No one coming along, he tried it, and has used it every season since, and thinks very highly of its fertilizing qualities. Some of my neighbors have said to me, that they thought it had been worth to them \$6 per barrel. I have used other fertilizers, such as Guano, Superphosphate, &c., most of which are beneficial, but none come fairly up to the Poudrette. One particular advantage Poudrette has over other fertilizers is, that the smell is not offensive, and it will not kill the seed.

And again, it is not so expensive. My method is TO PUT IT IN THE HILL WITH THE SEED. A quart by measure is ample for ten hills, at which rate a barrel will manure a thousand hills. I have known it to do well when a less quantity was used. I think nothing else should be put with it. It is a light matter to put it in the hill with the hand, as a person can drop it faster than a boy can drop corn. And it does not require the large hole necessary to put in dung or compost, and is a protection against the wire worm.

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14. Pruning the Quince.

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4. Insects which Injure Grain Crops.

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•• To show how full and valuable an article this is, it may be mentioned that Six Insects injurious to Fruit; Thirteen injurious to Grain, and Six injurious to Gardens, are described with complete and new illustrations, engraved expressly for this article in the ANNUAL REGISTER. It forms, in point of fact, the readiest HAND BOOK OF ENTOMOLOGY for the practical use of the farmer and gardener, we have ever seen.

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